

SERIAL 04225 IGA DIGITAL MICROWAVE RADIO EQUIPMENT

DATE OF LAST REVISION: December 08, 2005 CONTRACT END DATE: November 30, 2006

**CONTRACT PERIOD BEGINNING DECEMBER 01, 2004
ENDING NOVEMBER 30, ~~2005~~ 2006**

TO: All Departments

FROM: Department of Materials Management

SUBJECT: Contract for **DIGITAL MICROWAVE RADIO EQUIPMENT**

Attached to this letter is a listing of vendors available to Maricopa County Agencies utilizing the Arizona State Procurement Office Contract AD010220-005. The using agency and other interested parties may access and electronic version of this contract from the Materials Management Web site at:
http://www.maricopa.gov/materials/Awarded_Contracts/search.asp.

Please note: Price Agreement Purchase Orders (PG documents) may be generated using the information from this list. Use Commodity Code C587003 B0604636.

All purchases of product(s) listed on the attached pages of this letter are to be obtained from the listed contractor(s).



Contract Summary

Contract No.: AD010220 - 005

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Vendor: Tadiran Microwave Networks, Inc.

State Procurement Office

Capital Center Suite 103

15 South 15th Ave

Phoenix, AZ 85007-3223

CONTRACT TITLE: Digital Microwave Radio Equipment

CONTRACT TYPE: Statewide Contract

CONTRACT PERIOD: December 01, 2001 **THRU:** November 30, 2003

CONTRACTOR NUMBER: 760565333 - 900

CONTRACTOR NAME: Tadiran Microwave Networks, Inc.

CONTACT NAME : Bill Sherman

ADDRESS: 4000 Greenbriar Drive

Stafford, TX 77477

TELEPHONE: (281) 263-8204

FAX NUMBER: (281) 263-6406

CONTRACTING AGENCY: State Procurement Office

CONTACT NAME: Greg Dwight

TELEPHONE: (602) 542-8664

F.O.B. TERMS: FOB Delivered

DELIVERY: 90 Days ARO

PAYMENT TERMS: 2% 10 Days



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1. Definition of Terms

As used in this Solicitation and any resulting Contract, the terms listed below are defined as follows:

- A. *“Attachment”* means any item the Solicitation requires the Offeror to submit as part of the Offer.
- B. *“Contract”* means the combination of the Solicitation, including the Uniform and Special Instructions to Offerors, the Uniform and Special Terms and Conditions, and the Specifications and Statement or Scope of Work; the Offer and any Best and Final Offers; and any Solicitation Amendments or Contract Amendments; and any terms applied by law.
- C. *“Contract Amendment”* means a written document signed by the Procurement Officer that is issued for the purpose of making changes in the Contract.
- D. *“Contractor”* means any person who has a Contract with the State.
- E. *“Days”* means calendar days unless otherwise specified.
- F. *“Exhibit”* means any item labeled as an Exhibit in the Solicitation or placed in the Exhibits section of the Solicitation.
- G. *“Gratuity”* means a payment, loan, subscription, advance, deposit of money, services, or anything of more than nominal value, present or promised, unless consideration of substantially equal or greater value is received.
- H. *“Offer”* means bid, proposal or quotation.
- I. *“Offeror”* means a vendor who responds to any type of Solicitation.
- J. *“Procurement Officer”* means the person duly authorized by the State to enter into and administer Contracts and make written determinations with respect to the Contract or their designee.
- K. *“Solicitation”* means an Invitation for Bids (IFB), a Request for Proposals (RFP), or a Request for Quotations (RFQ).
- L. *“Solicitation Amendment”* means a written document that is authorized by the Procurement Officer and issued for the purpose of making changes to the Solicitation.
- M. *“Subcontract”* means any Contract, express or implied, between the Contractor and another party or between a subcontractor and another party delegating or assigning, in whole or in part, the making or furnishing of any material or any service required for the performance of the Contract.
- N. *“State”* means the State of Arizona and Department or Agency of the State that executes the Contract.

2. Contract Interpretation

- A. Arizona Law. The law of Arizona applies to this Contract including, where applicable, the Uniform Commercial Code as adopted by the State of Arizona and the Arizona Procurement Code, Arizona Revised Statutes (A.R.S.) Title 41, Chapter 23, and its implementing rules, Arizona Administrative Code (A.A.C.) Title 2, Chapter 7.
- B. Implied Contract Terms. Each provision of law and any terms required by law to be in this Contract are a part of this Contract as if fully stated in it.
- C. Contract Order of Precedence. In the event of a conflict in the provisions of the Contract, as accepted by the State and as they may be amended, the following shall prevail in the order set forth below:
 - 1. Special Terms and Conditions;
 - 2. Uniform Terms and Conditions;
 - 3. Statement or Scope of Work;
 - 4. Specifications;
 - 5. Attachments;
 - 6. Exhibits;
 - 7. Documents referenced or included in the Solicitation.
- D. Relationship of Parties. The Contractor under this Contract is an independent Contractor. Neither party to this Contract shall be deemed to be the employee or agent of the other party to the Contract.



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- E. Severability. The provisions of this Contract are severable. Any term or condition deemed illegal or invalid shall not affect any other term or condition of the Contract.
- F. No Parol Evidence. This Contract is intended by the parties as a final and complete expression of their agreement. No course of prior dealings between the parties and no usage of the trade shall supplement or explain any terms used in this document.
- G. No Waiver. Either party's failure to insist on strict performance of any term or condition of the Contract shall not be deemed a waiver of that term or condition even if the party accepting or acquiescing in the nonconforming performance knows of the nature of the performance and fails to object to it.

3. Contract administration and operation

- A. Records. Under A.R.S. § 35-214 and § 35-215, the Contractor shall retain and shall contractually require each subcontractor to retain all data and other records ("records") relating to the acquisition and performance of the Contract for a period of five years after the completion of the Contract. All records shall be subject to inspection and audit by the State at reasonable times. Upon request, the Contractor shall produce a legible copy of any or all such records.
- B. Non-Discrimination. The Contractor shall comply with State Executive Order No. 99-4 and all other applicable Federal and State laws, rules and regulations, including the Americans with Disabilities Act.
- C. Audit. Pursuant to ARS § 35-214, at any time during the term of this Contract and five (5) years thereafter, the Contractor's or any subcontractor's books and records shall be subject to audit by the State and, where applicable, the Federal Government, to the extent that the books and records relate to the performance of the Contract or Subcontract.
- D. Inspection and Testing. The Contractor agrees to permit access to its facilities, subcontractor facilities and the Contractor's processes for producing the materials, at reasonable times for inspection of the materials covered under this Contract. The State shall also have the right to test at its own cost the materials to be supplied under this Contract. Neither inspection at the Contractor's facilities nor testing shall constitute final acceptance of the materials. If the State determines non-compliance of the materials, the Contractor shall be responsible for the payment of all costs incurred by the State for testing and inspection.
- E. Notices. Notices to the Contractor required by this Contract shall be made by the State to the person indicated on the Offer and Acceptance form submitted by the Contractor unless otherwise stated in the Contract. Notices to the State required by the Contract shall be made by the Contractor to the Solicitation Contact Person indicated on the Solicitation cover sheet, unless otherwise stated in the Contract. An authorized Procurement Officer and an authorized Contractor representative may change their respective person to whom notice shall be given by written notice and an amendment to the Contract shall not be necessary.
- F. Advertising and Promotion of Contract. The Contractor shall not advertise or publish information for commercial benefit concerning this Contract without the prior written approval of the Procurement Officer.
- G. Property of the State. Any materials, including reports, computer programs and other deliverables, created under this Contract are the sole property of the State. The Contractor is not entitled to a patent or copyright on those materials and may not transfer the patent or copyright to anyone else. The Contractor shall not use or release these materials without the prior written consent of the State.

4. Costs and Payments

- A. Payments. Payments shall comply with the requirements of A.R.S. Titles 35 and 41, Net 30 days. Upon receipt and acceptance of goods or services, the Contractor shall submit a complete and accurate invoice for payment from the State within thirty (30) days.
- B. Delivery. Unless stated otherwise in the Contract, all prices shall be F.O.B. Destination and shall include all delivery and unloading at the destinations.
- C. Applicable Taxes.
1. Payment of Taxes by the State. The State shall pay only the rate and/or amount of taxes identified in the Offer and in any resulting Contract.
 2. State and Local Transaction Privilege Taxes. The State of Arizona is subject to all applicable state and local transaction privilege taxes. Transaction privilege taxes apply to the sale and are the responsibility of the seller to remit. Failure to collect taxes from the buyer does not relieve the seller from its obligation to remit taxes.
 3. Tax Indemnification. Contractor and all subcontractors shall pay all Federal, state and local taxes applicable to its operation and any persons employed by the Contractor. Contractor shall, and require all subcontractors to hold the State harmless from any responsibility for taxes, damages and interest, if applicable, contributions required under Federal, and/or state and local laws and



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regulations and any other costs including transaction privilege taxes, unemployment compensation insurance, Social Security and Worker's Compensation.

4. IRS W9 Form. In order to receive payment under any resulting Contract, Contractor shall have a current IRS W9 Form on file with the State of Arizona.
5. Availability of Funds for the Next Fiscal Year. Funds may not presently be available for performance under this Contract beyond the current fiscal year. No legal liability on the part of the State for any payment may arise under this Contract beyond the current fiscal year until funds are made available for performance of this Contract. The State shall make reasonable efforts to secure such funds.

5. Contract changes

- A. Amendments. This Contract is issued under the authority of the Procurement Officer who signed this Contract. The Contract may be modified only through a Contract Amendment within the scope of the Contract unless otherwise permitted by the Special Terms and Conditions. Changes to the Contract, including the addition of work or materials, the revision of payment terms, or the substitution of work or materials, directed by an unauthorized State employee or made unilaterally by the Contractor are violations of the Contract and of applicable law. Such changes, including unauthorized written Contract Amendments shall be void and without effect, and the Contractor shall not be entitled to any claim under this Contract based on those changes.
- B. Subcontracts. The Contractor shall not enter into any Subcontract under this Contract without the advance written approval of the Procurement Officer. The Subcontract shall incorporate by reference the terms and conditions of this Contract.
- C. Assignment and Delegation. The Contractor shall not assign any right nor delegate any duty under this Contract without the prior written approval of the Procurement Officer. The State shall not unreasonably withhold approval.

6. Risk and Liability

- A. Risk of Loss. The Contractor shall bear all loss of conforming material covered under this Contract until received by authorized personnel at the location designated in the purchase order or Contract. Mere receipt does not constitute final acceptance. The risk of loss for nonconforming materials shall remain with the Contractor regardless of receipt.
- B. General Indemnification. To the extent permitted by A.R.S. § 41-621 and § 35-154, the State of Arizona shall be indemnified and held harmless by the Contractor for its vicarious liability as a result of entering into this Contract. Each party to this Contract is responsible for its own negligence.
- C. Indemnification - Patent and Copyright. To the extent permitted by A.R.S. § 41-621 and § 35-154, the Contractor shall indemnify and hold harmless the State against any liability, including costs and expenses, for infringement of any patent, trademark or copyright arising out of Contract performance or use by the State of materials furnished or work performed under this Contract. The State shall reasonably notify the Contractor of any claim for which it may be liable under this paragraph.
- D. Force Majeure.
 1. Except for payment of sums due, neither party shall be liable to the other nor deemed in default under this Contract if and to the extent that such party's performance of this Contract is prevented by reason of force majeure. The term "*force majeure*" means an occurrence that is beyond the control of the party affected and occurs without its fault or negligence. Without limiting the foregoing, force majeure includes acts of God; acts of the public enemy; war; riots; strikes; mobilization; labor disputes; civil disorders; fire; flood; lockouts; injunctions-intervention-acts; or failures or refusals to act by government authority; and other similar occurrences beyond the control of the party declaring force majeure which such party is unable to prevent by exercising reasonable diligence.
 2. Force Majeure shall not include the following occurrences:
 - a) Late delivery of equipment or materials caused by congestion at a manufacturer's plant or elsewhere, or an oversold condition of the market;
 - b) Late performance by a subcontractor unless the delay arises out of a force majeure occurrence in accordance with this force majeure term and condition; or
 - c) Inability of either the Contractor or any subcontractor to acquire or maintain any required insurance, bonds, licenses or permits.



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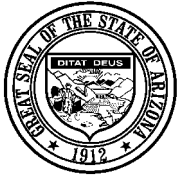
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3. If either party is delayed at any time in the progress of the work by force majeure, the delayed party shall notify the other party in writing of such delay, as soon as is practicable and no later than the following working day, of the commencement thereof and shall specify the causes of such delay in such notice. Such notice shall be delivered or mailed certified-return receipt and shall make a specific reference to this article, thereby invoking its provisions. The delayed party shall cause such delay to cease as soon as practicable and shall notify the other party in writing when it has done so. The time of completion shall be extended by Contract Amendment for a period of time equal to the time that results or effects of such delay prevent the delayed party from performing in accordance with this Contract.
4. Any delay or failure in performance by either party hereto shall not constitute default hereunder or give rise to any claim for damages or loss of anticipated profits if, and to the extent that such delay or failure is caused by force majeure.
- E. Third Party Antitrust Violations. The Contractor assigns to the State any claim for overcharges resulting from antitrust violations to the extent that those violations concern materials or services supplied by third parties to the Contractor, toward fulfillment of this Contract.

7. Warranties

- A. Liens. The Contractor warrants that the materials supplied under this Contract are free of liens.
- B. Quality. Unless otherwise modified elsewhere in these terms and conditions, the Contractor warrants that, for one year after acceptance by the State of the materials, they shall be:
 1. Of a quality to pass without objection in the trade under the Contract description;
 2. Fit for the intended purposes for which the materials are used;
 3. Within the variations permitted by the Contract and are of even kind, quantity, and quality within each unit and among all units;
 4. Adequately contained, packaged and marked as the Contract may require; and
 5. Conform to the written promises or affirmations of fact made by the Contractor.
- C. Fitness. The Contractor warrants that any material supplied to the State shall fully conform to all requirements of the Contract and all representations of the Contractor, and shall be fit for all purposes and uses required by the Contract.
- D. Inspection/Testing. The warranties set forth in subparagraphs A through C of this paragraph are not affected by inspection or testing of or payment for the materials by the State.
- E. Year 2000.
 1. Notwithstanding any other warranty or disclaimer of warranty in this Contract, the Contractor warrants that all products delivered and all services rendered under this Contract shall comply in all respects to performance and delivery requirements of the specifications and shall not be adversely affected by any date-related data Year 2000 issues. This warranty shall survive the expiration or termination of this Contract. In addition, the defense of *force majeure* shall not apply to the Contractor's failure to perform specification requirements as a result of any date-related data Year 2000 issues.
 2. Additionally, notwithstanding any other warranty or disclaimer of warranty in this Contract, the Contractor warrants that each hardware, software, and firmware product delivered under this Contract shall be able to accurately process date/time data (including but not limited to calculation, comparing, and sequencing) from, into, and between the twentieth and twenty-first centuries, and the years 1999 and 2000 and leap year calculations, to the extent that other information technology utilized by the State in combination with the information technology being acquired under this Contract properly exchanges date-time data with it. If this Contract requires that the information technology products being acquired perform as a system, or that the information technology products being acquired perform as a system in combination with other State information technology, then this warranty shall apply to the acquired products as a system. The remedies available to the State for breach of this warranty shall include, but shall not be limited to, repair and replacement of the information technology products delivered under this Contract. In addition, the defense of *force majeure* shall not apply to the failure of the Contractor to perform any specification requirements as a result of any date-related data Year 2000 issues.
- F. Exclusions. Except as otherwise set forth in this Contract, there are no express or implied warranties of merchantability or fitness.
- G. Compliance With Applicable Laws. The materials and services supplied under this Contract shall comply with all applicable Federal, state and local laws, and the Contractor shall maintain all applicable license and permit requirements.



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H. Survival of Rights and Obligations after Contract Expiration or Termination.

1. Contractor's Representations and Warranties. All representations and warranties made by the Contractor under this Contract shall survive the expiration or termination hereof. In addition, the parties hereto acknowledge that pursuant to A.R.S. § 12-510, except as provided in A.R.S. § 12-529, the State is not subject to or barred by any limitations of actions prescribed in A.R.S., Title 12, Chapter 5.
2. Purchase Orders. The Contractor shall, in accordance with all terms and conditions of the Contract, fully perform and shall be obligated to comply with all purchase orders received by the Contractor prior to the expiration or termination hereof, unless otherwise directed in writing by the Procurement Officer, including, without limitation, all purchase orders received prior to but not fully performed and satisfied at the expiration or termination of this Contract.

8. State's Contractual Remedies

- A. Right to Assurance. If the State in good faith has reason to believe that the Contractor does not intend to, or is unable to perform or continue performing under this Contract, the Procurement Officer may demand in writing that the Contractor give a written assurance of intent to perform. Failure by the Contractor to provide written assurance within the number of Days specified in the demand may, at the State's option, be the basis for terminating the Contract under the Uniform Terms and Conditions.
- B. Stop Work Order.
 1. The State may, at any time, by written order to the Contractor, require the Contractor to stop all or any part, of the work called for by this Contract for a period of ninety (90) Days after the order is delivered to the Contractor, and for any further period to which the parties may agree. The order shall be specifically identified as a stop work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage.
 2. If a stop work order issued under this clause is canceled or the period of the order or any extension expires, the Contractor shall resume work. The Procurement Officer shall make an equitable adjustment in the delivery schedule or Contract price, or both, and the Contract shall be amended in writing accordingly.
- C. Non-exclusive Remedies. The rights and the remedies of the State under this Contract are not exclusive.
- D. Nonconforming Tender. Materials supplied under this Contract shall fully comply with the Contract. The delivery of materials or a portion of the materials in an installment that do not fully comply constitutes a breach of contract. On delivery of nonconforming materials, the State may terminate the Contract for default under applicable termination clauses in the Contract, exercise any of its rights and remedies under the Uniform Commercial Code, or pursue any other right or remedy available to it.
- E. Right of Offset. The State shall be entitled to offset against any sums due the Contractor, any expenses or costs incurred by the State, or damages assessed by the State concerning the Contractor's non-conforming performance or failure to perform the Contract, including expenses, costs and damages described in the Uniform Terms and Conditions.

9. Contract Termination

- A. Cancellation for Conflict of Interest. Pursuant to A.R.S. § 38-511, the State may cancel this Contract within three (3) years after Contract execution without penalty or further obligation if any person significantly involved in initiating, negotiating, securing, drafting or creating the Contract on behalf of the State is or becomes at any time while the Contract or an extension of the Contract is in effect an employee of or a consultant to any other party to this Contract with respect to the subject matter of the Contract. The cancellation shall be effective when the Contractor receives written notice of the cancellation unless the notice specifies a later time. If the Contractor is a political subdivision of the State, it may also cancel this Contract as provided in A.R.S. § 38-511.
- B. Gratuities. The State may, by written notice, terminate this Contract, in whole or in part, if the State determines that employment or a Gratuity was offered or made by the Contractor or a representative of the Contractor to any officer or employee of the State for the purpose of influencing the outcome of the procurement or securing the Contract, an amendment to the Contract, or favorable treatment concerning the Contract, including the making of any determination or decision about contract performance. The State, in addition to any other rights or remedies, shall be entitled to recover exemplary damages in the amount of three times the value of the Gratuity offered by the Contractor.
- C. Suspension or Debarment. The State may, by written notice to the Contractor, immediately terminate this Contract if the State determines that the Contractor has been debarred, suspended or otherwise lawfully prohibited from participating in any public



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procurement activity, including but not limited to, being disapproved as a subcontractor of any public procurement unit or other governmental body.

D. Termination for Convenience. The State reserves the right to terminate the Contract, in whole or in part at any time, when in the best interests of the State without penalty or recourse. Upon receipt of the written notice, the Contractor shall immediately stop all work, as directed in the notice, notify all subcontractors of the effective date of the termination and minimize all further costs to the State. In the event of termination under this paragraph, all documents, data and reports prepared by the Contractor under the Contract shall become the property of and be delivered to the State. The Contractor shall be entitled to receive just and equitable compensation for work in progress, work completed and materials accepted before the effective date of the termination. The cost principles and procedures provided in A.A.C. R2-7-701 shall apply.

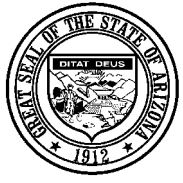
E. Termination for Default.

1. In addition to the rights reserved in the Uniform Terms and Conditions, the State reserves the right to terminate the Contract in whole or in part due to the failure of the Contractor to comply with any term or condition of the Contract, to acquire and maintain all required insurance policies, bonds, licenses and permits, or to make satisfactory progress in performing the Contract. The Procurement Officer shall provide written notice of the termination and the reasons for it to the Contractor.
2. Upon termination under this paragraph, all goods, materials, documents, data and reports prepared by the Contractor under the Contract shall become the property of and be delivered to the State on demand.
3. The State may, upon termination of this Contract, procure, on terms and in the manner that it deems appropriate, materials or services to replace those under this Contract. The Contractor shall be liable to the State for any excess costs incurred by the State in procuring materials or services in substitution for those due from the Contractor.

F. Continuation of Performance Through Termination. The Contractor shall continue to perform, in accordance with the requirements of the Contract, up to the date of termination, as directed in the termination notice.

10. **Contract Claims**. All contract claims or controversies under this Contract shall be resolved according to A.R.S. Title 41, Chapter 23, Article 9, and rules adopted thereunder.

11. **Comments Welcome**. The State Procurement Office periodically reviews the Uniform Terms and Conditions and welcomes any comments you may have. Please submit your comments to the State Procurement Administrator, State Procurement Office, 15 South 15th Avenue, Suite 103, Phoenix, Arizona, 85007.



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Eligible Agencies (Statewide)

Any contract resulting from this solicitation shall be for the use of all State of Arizona departments, agencies, commissions and boards. In addition, eligible universities, political subdivisions and nonprofit educational or public health institutions may participate at their discretion. In order to participate in any resultant contract, a university, political subdivision, or nonprofit educational or public health institution must have entered into a cooperative purchasing agreement with the State Procurement Office as required by Arizona Revised Statutes 41-2632.

Contract Type (Term)

Fixed price term indefinite quantity.

Term of Contract (2 Year)

The term of any resultant contract shall commence on the first day of the month following the date of award and shall continue for a period of two (2) years thereafter, unless terminated, canceled or extended as otherwise provided herein.

Contract Extension

By mutual written contract amendment, any resultant contract may be extended for supplemental periods of up to a maximum of 36 months.

Delivery

Delivery shall be made within 90 days of receipt of a Contract Release Order/Purchase Order document.

Shipping F.O.B. Delivered

Prices shall be F.O.B. destination to the delivery location designated herein. Contractor shall retain title and control of all goods until they are delivered and the contract of coverage has been completed. All risk of transportation and all related charges shall be the responsibility of the contractor. All claims for visible or concealed damage shall be filed by the contractor. The state will notify the contractor promptly of any damaged goods and shall assist the contractor in arranging for inspection.

Pricing

Pricing shall be F.O.B. Destination. Prices will not include Mountain Top delivery.

Taxes

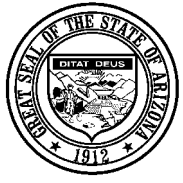
Applicable Taxes: The State will pay all State and Local taxes.

Warranty

All equipment supplied under this specification shall be fully guaranteed by the contractor for a minimum period of 24 months from the date of acceptance by the state. Any defects of design, workmanship, or materials, that would result in non-compliance with the contract specification, shall be fully corrected by the contractor (including parts and labor) without cost to the state. The written warranty shall be included with the delivered products to the using entity.

Manufacturer's Representative

Dealers who submit an offer as a manufacturer's representative must supplement the offer with a letter from each manufacturer involved certifying that the vendor is a bona fide dealer for the specific equipment presented, that the vendor is authorized to submit an offer on such equipment, and guarantees that should the dealer fail to satisfactorily fulfill any obligations established as a result of the anticipated contract awards. The manufacturer, upon assignment by the state, will either assume and discharge such obligations or provide for their competent assumption by one or more bona fide dealers for the balance of the contract period.



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Estimated Quantities (Considerable)

The state anticipates considerable activity resulting from contracts that will be awarded as a result of this solicitation; however, no commitment of any kind is made concerning quantities actually acquired and that fact should be taken into consideration by each potential contractor.

New Technology

New products announced by the manufacturers on contract may be added to the existing contract during the course of the contract. Pricing shall be equivalent to the percent of list for each brand or class of equipment originally awarded.

Price Increase

The State Procurement Office may review a fully documented request for a price increase only after the contract has been in effect for two (2) years. A price increase adjustment shall only be considered at the time of a contract extension and shall be a factor in the extension review process. The State Procurement Office shall determine whether the requested price increase or an alternate option is in the best interest of the state.

The price increase adjustment, if approved, will be effective upon the effective date of the contract extension.

Price Reductions

Price reductions may be submitted to the state for consideration at any time during the contract period. The contractor shall offer the state a price reduction on the contract product(s) concurrent with a published price reduction made by the manufacturer to other customers. The state at its own discretion may accept a price reduction. The contractor shall request, in writing, a price reduction and provide the following:

1. A formal announcement from the manufacturer that the cost of the contract product has been reduced.
2. Documentation, i.e., published cost lists, from the manufacturer showing, to the satisfaction of the state, the actual cost reduction.
3. Documentation showing that the published cost reductions have been offered to other distributors.

Product Discontinuance

The state may award contracts for particular products and/or models of equipment as a result of this solicitation. In the event that a product or model is discontinued by the manufacturer, the state at its sole discretion may allow the contractor to provide a substitute for the discontinued item. The contractor shall request permission to substitute a new product or model and provide the following:

1. A formal announcement from the manufacturer that the product or model has been discontinued.
2. Documentation from the manufacturer that names the replacement product or model.
3. Documentation that provides clear and convincing evidence that the replacement meets or exceeds all specifications required and remains within the same category defined by the original solicitation.
4. Documentation that provides clear and convincing evidence that the replacement will be compatible with all the functions or uses of the discontinued product or model.
5. Documentation confirming that the price for the replacement is the same as or less than the discontinued model.
6. As applicable, if a sample is requested, notification will be given whether the sample is acceptable, or is rejected, a reason shall be given.

Safety Standards



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All items supplied on this contract must comply with the current applicable occupational safety and health standards of the State of Arizona Industrial Commission, The National Electric Code, and The National Fire Protection Association Standards.

Usage Report

The contractor shall furnish the state a usage report delineating the acquisition activity governed by the contract. The format of the report shall be approved by the state and shall disclose the quantity and the dollar value of each contract item by individual purchasing unit.

The usage report shall be due at the end of each twelve month period of the contract term.

Insurance

A. Without limiting any liabilities or any other obligation of the Contractor, the Contractor shall purchase and maintain, in a company or companies lawfully authorized to do business in the State of Arizona, and rated at least "A VII" in the current A.M. Best's, the minimum insurance coverage below:

1. Commercial General Liability, with minimum limits of \$1,000,000.00 per occurrence, and an unimpaired products and completed operations aggregate limit and general aggregate minimum limit of \$2,000,000.00. Coverage shall be at least as broad as the Insurance Service Office, Inc. Form CG00010196, issued on an Occurrence basis, and endorsed to add the State of Arizona as an Additional Insured with reference to this contract. The policy shall include coverage for:

Bodily Injury;

Broad Form Property Damage (including completed operations);

Personal Injury;

Blanket Contractual Liability;

Products and Completed Operations, and this coverage shall extend for one year past acceptance, cancellation or termination of the services or work defined in this contract;

Fire Legal Liability.

2. Business Automobile Liability, with minimum limits of \$1,000,000.00 per occurrence combined single limit, with Insurance Service Office, Inc. Declarations to include Symbol One (Any Auto) applicable to claims arising from bodily injury, death or property damage arising out of the ownership, maintenance or use of any auto. The policy shall be endorsed to add the State of Arizona as an Additional Insured with reference to this contract.

3. Worker's Compensation (Coverage A): Statutory Arizona benefits;

Employer's Liability (Coverage B): \$500,000.00 each accident;

\$500,000.00 each employee/disease;

\$1,000,000.00 policy limit/disease.

Policy Shall Include endorsement for All State coverage for state of hire.



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SECTION 1 GENERAL REQUIREMENTS

1.00 GENERAL

1.1 Background

The State of Arizona presently maintains an analog microwave system for transport of voice (2-way radio and telephone) and low speed data traffic. The present system is statewide, predominately a 6GHz, 480channel microwave network, and configured in three separate alternate route protected loop topologies.

1.2 Intent

The State of Arizona has an immediate need for several digital microwave radio links. These links will not be part of the existing analog microwave loop configuration, they will be implemented as spur links. This specification covers equipment operating in the licensed bands of 6, 10, 11, 18, and 23 GHz, as defined by the F.C.C. Regulations, Title 47, Part 101, and with capacities of 4 T1 to 3 DS3 or OC3 digital rates. These specifications will provide equipment for purchase on an Arizona State Purchasing Contract for the State of Arizona, its departments and agencies, and any political subdivisions.

1.3 Standards

The Digital Microwave Radio shall meet as a minimum the applicable standards and specifications of the following:

- (1) Federal Communications Commission (FCC) Title 47 Parts 2, 15, and 101 as applicable
- (2) Bellcore Technical References
- (3) International Telecommunications Union - Telecommunications Standardization Sector (ITU-T), formerly known as CCITT.
- (4) International Telecommunications Union – Radio communication Sector (ITU-R), formerly known as CCIR
- (5) Institute of Electrical and Electronic Engineers (IEEE)
- (6) MIL-HDBK-217, Reliability Prediction of Electronic Equipment
- (7) Underwriters Laboratory (UL)
- (8) American National Standards Institute (ANSI)
- (9) Electronic Industries Association (EIA)
- (10) Telecommunications Industries Association (TIA)

In case of conflicting requirements of standards, they apply in the sequence in which they are listed above. The complete apparatus shall also comply with the applicable codes, laws, and regulations of all governmental agencies having jurisdiction.


1.4 Standard Units of Measure

- 1.4.1 All responses and manufacturer's specifications provided in response to this document shall use the same measurements, units, and terminology used in this document. It is up to the Contractor to cross-reference or convert any differences.

1.5 Equipment to be Furnished Complete

- 1.5.1 Any parts or accessories ordinarily furnished or required to make the radio equipment a complete operating unit or system shall be furnished by the Contractor, whether directly mentioned in the specifications or not.
- 1.5.2 Equipment supplied under this contract shall be new and of recent manufacture and provided with the latest hardware and software revisions currently being shipped. The Contractor shall notify the Purchaser when any hardware or software revision is incompatible with previously shipped equipment. The Contractor shall identify the incompatibility and shall provide a method to resolve the incompatibility.
- 1.5.3 The equipment offered under this contract shall be standard production equipment identified by standard model numbers as listed in Contractor's standard catalogs and price pages.

1.6 Failure to Meet Requirements of Specifications

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Should any of the inspections, tests, or operation of the equipment under service conditions show that the equipment does not meet the requirements of the Contract's specifications, the Purchaser will reject the equipment and direct the Contractor to immediately replace such new equipment or parts, as may be necessary to bring it up to the requirements of the Contract's specifications.

1.7 Detailed Specifications of Equipment

Merely offering to meet these specifications is insufficient and will not be accepted. Each Contractor shall submit a proposal with a complete description of the operation of the proposed equipment. The proposal shall include detailed specifications, photographs, model numbers, and show all phases of the proposed equipment. These specifications must be complete and cover in detail all requirements set forth herein. Any deviation from these specifications shall be fully explained.

1.8 Replacement Parts

- 1.8.1 The Contractor shall guarantee to make available all replacement parts used in the furnished equipment for a minimum of ten (10) years from the date of delivery.
- 1.8.2 The Contractor shall state the manufacturers standard policy for providing replacement parts during the warranty and after warranty period. The Contractor shall include repair and return policy documentation and procedures.
- 1.8.3 The Contractor shall provide advance notification of 1 year of any change of status from products available from regular production to maintenance only support.
- 1.8.4 The Contractor shall provide a list of recommended spare parts (or assemblies). The cost of these spare parts will be a separate item on the bid price sheet.
- 1.8.5 The Contractor shall ship spare modules for maintenance purposes within 24 hours of notification if requested by customer.

1.9 Maintenance

- 1.9.1 The Contractor shall provide the contact information for primary and backup contacts for service problems.
- 1.9.2 The Contractor shall state the escalation procedure for service problems, along with time lines for escalation.
- 1.9.3 The Contractor shall state the complete standard policy for response time and repair.

1.10 Specialized Tools

One complete set per terminal/repeater of any specialized tools, cables, test fixtures, or adapters necessary for complete troubleshooting and repair shall be provided at no additional cost.

1.11 Test Equipment

The Contractor shall provide a separate recommended test equipment list.


1.12 Documentation

- 1.12.1 Maintenance/instruction manuals shall be supplied concurrently with equipment delivery. These manuals must cover the installation, operation, and maintenance of the exact equipment supplied. Two (2) set of manuals per link are required. One sample set of these manuals shall be submitted as part of the bid response package.
- 1.12.2 The Contractor shall detail the process that will be used in upgrading the user manuals or notify the user when changes are made to equipment.

1.13 Training

- 1.13.1 The Contractor shall provide technical training in the operation of all of the user equipment supplied by a qualified instructor with teaching experience and provide costs based on instruction at each of the following locations:

The factory training facility.

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The buyer's facility.

1.13.2 This training shall be at the technician level and shall detail the maintenance, operation, level setting, and repair of electronic equipment being provided. This price should be on a per person basis for training only. The buyer shall be responsible for travel, lodging, and per diem costs for the people sent to training.

1.14 Factory Testing

1.14.1 Each unit and assembly shall undergo extensive testing prior to shipment from the factory. Each delivered unit will be accompanied by a printed record of the functional test results for each particular unit. In addition to the standard manufacturer's test procedures, the following parameters shall be tested or verified:

1. Verify configuration, rack power voltage and strapping options
2. Record DC-DC Power Converter and Power Supply voltages
3. Record Transmit Frequency
4. Record Transmit Output Power at antenna and Monitor Points.
5. Record and verify that transmit branching loss is within specifications.
6. Record Receiver Frequency
7. Verify Receiver Threshold at BER 10E-6 within specifications
8. Verify Errorless Receive Switching if applicable
9. Verify Equipment Control, Monitoring and Alarm System
10. Verify Reverse Path Protection (DS1 Switch), if applicable
11. Verify error-free DS1 operation for 24 hour period

1.14.2 Each path group of radio equipment purchased will be back-to-back system tested at the factory prior to shipment to insure proper operation, alignment, and compatibility.

1.15 Optional System Engineering Services

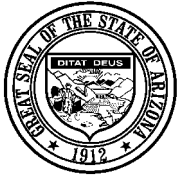
The following options shall also be priced as separate items on the price sheet. The prices for these options are to be quoted in single unit quantities.

1.15.1 Frequency Coordination - Frequency coordination services as required to comply with FCC rules and licensing instructions. This shall include services required by the FCC at the time the frequency coordination is requested. Provide the cost on a "per-hop" basis for each frequency band.

1.15.2 Field Engineering Work - Provide pricing for optional field engineering services as ordered for the microwave paths. These services shall include but are not limited to:

1. Path engineering, including coordinating with the frequency coordinator to determine the correct frequency band considering interference as well as the physical characteristics of the path.
2. Physical inspection of the sites and verification of the microwave paths.
3. Providing written documentation showing photographs of the sites, site drawings, and equipment installation locations.

1.15.3 Installation Services - Provide pricing for optional field installation services for the microwave equipment, antennas, waveguide, and ancillary equipment.



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SECTION 2 DIGITAL MICROWAVE RADIO EQUIPMENT NON-FREQUENCY SPECIFIC

2.00 DIGITAL MICROWAVE RADIO EQUIPMENT

This section describes the nonfrequency specific requirements of the microwave radio equipment specifications.

2.1 Electromagnetic Susceptibility and Spurious Radiation

2.1.1 The radio equipment shall be designed to operate in a communications equipment environment installed in or near the vicinity of other types of equipment which may include:

1. 100-watt VHF (150 MHz), UHF (450 MHz), and 800 MHz transmitters.
2. Microwave transmitters with up to 5 watts output power.
3. TV and FM translator equipment and high-power TV and FM broadcast transmitters.
4. A portable radio transmitter operating at 6 watts or less in the 150 to 160 MHz band, 5 watts or less in the 450 to 512 MHz band, and 3 watts or less in the 806 to 869 MHz band.

2.1.2 The equipment offered under this specification shall not emit Radio Frequency Interface (RFI) to any of the types of equipment at any level and frequency which causes measurable performance degradation.

2.2 Physical Requirements

2.2.1 The microwave radio equipment described in these specifications shall be mountable in a standard 19-inch or 23-inch aluminum equipment rack (e.g. Chatsworth Products 46353-105).

2.2.2 Equipment shall be supplied that shall allow for two complete RF and multiplex equipment assemblies to be mounted in the same rack space to allow for a complete hot-standby repeater or two hot-standby terminals to be installed in a single rack space. Any exceptions to this requirement shall be clearly noted.

2.2.3 All equipment provided shall not be susceptible to bit errors, false alarms, or other abnormal operation when subjected to shock and vibration normally anticipated to be received during normal maintenance actions such as pulling and removing circuit cards, replacing covers, or connecting test equipment either in the immediate rack or an adjacent rack.

2.2.4 All indoor equipment shall operate and meet specifications over the temperature range of 0 to +50 degrees C and at altitudes up to 12,000 feet.


2.3 Multiplex Equipment

2.3.1 All terminal and repeater equipment shall be supplied with multiplex equipment to convert the signaling speeds and formats internal to the microwave equipment to the DS1 level.

2.3.2 The multiplex equipment shall be provided for the maximum capacity of the radio equipment being provided and requested by this solicitation.

2.3.3 Multiplex Interface Requirements:

1. DS3 Interface: Compatible with DSX-3 interface specification (44.736Mbps).
2. DS3 Configuration: B3ZS.
3. DS3 Line Build-Out: 0 – 450 feet is required for the DS3 interface.
4. DS3 Line Impedance: 75 ohms unbalanced.
5. DS1 Interface: Compatible with DSX-1 interface specification (1.544 Mbps)
6. DS1 Configuration: The configuration (e.g. AMI or B8ZS, etc.) of each DS1 drop in the shelf is to be programmable at the shelf.

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7. DS1 Line Build-Out: 0 – 650 feet is required for each DS1 interface.

8. DS1 Line Impedance: 100 ohms balanced.

2.3.4 Multiplex equipment shall report equipment and transmission alarms and shall provide an interface into the Buyer's microwave radio alarm system. Relay contacts and/or voltage monitoring points shall be available for connection to the remote alarm units.

2.3.5 SONET multiplexers shall be capable of add/drop capability as follows:

1. Any VT1.5 can be added or dropped across the entire OC-3 payload
2. Any VT1.5 can be added or dropped without having to add/drop an entire VT group.
3. 56 VT1.5s can be added or dropped using a single shelf at a logical add/drop multiplexer node in a linear architecture
4. 28 VT1.5s can be added or dropped using a single shelf in a logical hubbing multiplexer node in a ring architecture
5. 84 VT1.5s can be added or dropped using a single shelf at a logical add/drop multiplexer node in a ring configuration
6. Any DS-3 can be added or dropped across the entire OC-3 payload.

2.3.6 SONET multiplexers shall be able to terminate a spur OC-3 signal into the add/drop multiplexer shelf at a logical hubbing multiplexer node.

2.3.7 SONET synchronization shall include the following:

1. External, free running, and loop timing.
2. 1:1 protected DS-1 timing outputs with a signaling method to communicate synchronization messages over the OC-3 interface.
3. Automatic ring synchronization

2.3.8 The multiplexers shall be capable of performing looping back any DS-1, DS-3 or OC-3 signal levels.


2.3.9 If an external device is necessary to configure, control, and monitor the operation, status, or alarm condition of the multiplexer assembly, the cost of this device is to be stated separately. If custom software for a user supplied laptop computer is available, the cost of this software is to be stated separately. In addition, the equipment proposed shall have an embedded SNMP agent that will allow Buyer to monitor and control the equipment using SNMP management software.

2.4 Alarm and Control

2.4.1 Radio and multiplex equipment shall have sufficient alarm, control, and metering capabilities so that qualified technicians can detect and repair defective or failing components and remotely monitor radio status and performance. Each of the alarms shall be available for display and metering locally as well as from any other terminal or repeater connected in the system to the same alarm and control system. The system shall be capable of addressing 999 individual alarm and control monitoring units.

2.4.2 The microwave equipment shall be equipped with either, front panel display and controls or a small handheld unit with displays and controls. As a minimum, the front panel display or handheld unit shall provide the following indications:

1. System major and minor alarms
2. Local major and minor alarms
3. Received signal level
4. Equipment operational status (active or standby)
5. Equipment in alarm
6. Site in alarm
7. Multiplex alarms

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2.4.3 A computer interface port may be provided to access additional detailed information or advanced features. The following alarm and status conditions in addition to those above shall be displayed through a serial data connection, EIA RS-232 interface, as a minimum:

1. Bit error rate for the radio path.
2. Alarm history showing a minimum of the last 10 alarm conditions.

The Contractor may also provide the detailed information on the front panel or handheld display in lieu of using a computer connection.

2.4.4 If Contractor's equipment only has a data interface or requires a laptop computer, the cost of software shall be included in the equipment pricing.

2.4.5 An alarm condition shall be generated any time any equipment, with the exception of diversity receive, is operating in a protection mode.

2.5 DC Power Requirements

2.5.1 All radio and multiplex equipment supplied under this contract shall operate from standard +/- 19 to +/- 60 VDC power system.

2.5.2 Each radio rack assembly shall be equipped with a DC distribution facility including power bus, ground bus, and fuse or circuit breaker panel. This DC distribution facility shall provide main DC power for all the equipment installed in the rack. The DC distribution facility shall be equipped with an alarm system to provide an alarm contact whenever a fuse or circuit breaker has opened.

2.5.3 Contractors shall state the power consumption in watts and Btu's generated by their equipment. The power consumption stated shall include the RF equipment, multiplex equipment, service channel, and alarm and control equipment in a worst-case condition.

2.5.4 Radio equipment configured two or more to a rack shall be individually fused. A power supply failure in one radio assembly shall not affect any other path or hop.

2.6 Service Channel/Orderwire

2.6.1 The price for the vendor's service channel orderwire option(s) shall be quoted separately in the bid response.

2.6.2 The service channels shall not decrease the traffic capacity of the system.

2.6.3 The service channels shall automatically be switched when installed in a radio network using a protected configuration (e.g., loop protection, hot-standby)

2.7 Redundancy and Protection

2.7.1 The microwave equipment shall be designed for reliable operation through the use of redundant power supplies and other common equipment where possible.

2.7.2 The microwave equipment shall provide the following protection methods as applicable:

1. None
2. Hot-standby transmit and receive.
3. Diversity receive.
4. Loop protection and diversity receive.
5. Loop protection.
6. SONET Ring protection.



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- 2.7.3 Contractors shall provide detailed information on their protection methods and configurations. All information supplied by Contractor on protection schemes will be considered and evaluated.
- 2.7.4 Larus DS1 ring diversity switch equipment or equivalent shall be quoted separately if switching function is not internal to radio multiplex equipment.
- 2.7.5 The electronic switching time for the RF portion of the radio shall be less than 10 ms. Contractors shall submit their maximum manual switching time for transmit multiplexers. Maximum bit errors incurred and transmitter failure confirmation time shall also be included. The maximum automatic switching time of the transmitter and transmitter multiplexer shall be 100 ms.
- 2.7.6 Receivers and receiver multiplex units shall provide both manual and automatic error free switching.
- 2.7.7 The protection switching threshold shall have a hysteresis factor of 100 so the protection switch will not switch back to the original equipment unless the BER is 100 times improvement over the failed switching threshold.
- 2.7.8 A complete or partial failure of the protection control or switching shall not render the microwave link inoperable. Any failure of the protection control or switching equipment shall generate a major alarm.
- 2.7.9 The equipment shall be designed so that protection circuits and units not in service can be tested and repaired without affecting the online system operation
- 2.7.10 If both receivers in a hot-standby configuration indicated a received signal level of less than the threshold, the protection circuits shall cause a reverse channel signal to be transmitted to command the standby transmitter to switch on at the far end.

2.8 Space Diversity

Equipment supplied with space diversity receive capability shall provide errorless switching between the transition from one receiver to the other. Contractors shall describe in detail how the diversity switching operates and how diversity receiver alignment is done.

2.9 Adaptive Equalization and Forward Error Correction

- 2.9.1 Adaptive equalization shall be included in all radio receivers. The dispersive fade margin at 10E-6 BER shall be greater than or equal to:
1. 60 dB for radios operating at DS-3 rates and below.
 2. 46 dB or for radios operating at 2 DS-3 rates and above.
- 2.9.2 Forward Error Correction shall provide a Residual BER of less than 10E-12.

2.10 Intelligent Channel Bank Equipment

- 2.10.1 Channel bank equipment shall be quoted separately in the bid response. The channel bank (CB) shall be standards compliant for 1.544 Mbps digital T1 transmission and shall convert DS1 signals to 24 DS0 level. The CBs shall be capable of terminal and drop/insert configurations. The CBs common equipment shall be configured with: (1) power distribution and regulator modules, (2) line interface units with equalization range of zero to 655 feet from DSX, (3) alarm and configuration module for equipment failure monitoring, testing, and configuration, and (4) DS1 transmitter and receiver units.

The CB shall support the selection of Extended Super Frame (ESF) and Superframe (SF) formats. The line codes shall be AMI and B8ZS coding.

- 2.10.2 All external connections for VF channel drops and channel signaling circuits shall be connectorized for 25-pair cable inter-connection.



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If channel bank equipment is not equipped with integral voice transmit and receive jacks, a jackfield panel shall be furnished with break-break jacks and a monitor jack for each circuit. The jacks shall be Bantam type.

2.10.3 System Maintenance

2.10.3.1 Alarm Reporting

CB shall have following alarm reporting capability:

1. Polls all CB modules for their current operational status and displays that status for review.
2. Generates and reports system alarms and other events to an SNMP network management system.
3. Store system alarms and other events for operator viewing.

2.10.3.2 Front Panel Status Monitoring

Alarm conditions shall be indicated by LEDs on each modules front panel.

2.10.3.3 System User Interface

Following network management interfaces shall be available. In addition to embedded SNMP interface, optional asynchronous terminal (VT100 compatible) and Telnet access to allow local and remote configuration and control.

2.10.4 Alarm Indications

Alarms shall be locally and remotely monitored and will include as a minimum, the following:

1. Power supply
2. Each modules summary alarm

2.10.5 Network Protection

The CB shall have a full complement of self-tests and loopbacks for fast, reliable fault isolation. To maximize network availability the CB shall be capable of redundant common modules and power supplies.

2.10.6 Timing

Network transmit timing shall be capable of following timing sources:

1. Internal
2. Loop
3. External

2.10.7 Channel Units

Channel units shall be priced separately per each unit. The following modules shall be included as a minimum, but pricing discount structure on all available modules is also requested:

1. Common equipment modules with DSX interface
2. 4W E/M
3. 2W FXO/FXS
4. Synchronous Data
5. Asynchronous Data



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6. Video

7. Power Supply modules shall have 115VAC, -24VDC, and -48VDC capability

2.11 Digital Cross-Connect System

2.11.1 General

A Digital Cross-Connect System (DCS) shall be quoted separately in the bid response. The DCS equipment shall be standards compliant and shall provide DS0 channel grooming and routing among up to a minimum of 6DS1 circuits connected to the microwave radio.

The CB shall support the selection of Extended Super Frame (ESF) and Superframe (SF) formats. The line codes shall be AMI and B8ZS coding.

The DCS shall have full redundancy protection of all modules, and shall have a minimum of two (2) external timing inputs. The DCS internal clock shall be a minimum of Stratum 3.

The DCS shall be capable of failure detection and re-routing in both point-to-point and ring protection switching configurations.

2.11.2 Alarm Indications

The DCS shall have built-in diagnostic capability. The presence of alarms shall be indicated by LEDs or other visual indicators as major or minor alarms.

A dry-contact relay alarm output shall be provided for the major or minor alarm.

2.11.3 System Administration

The DCS shall allow for configuration and management, either by local or remote connection, as follows:

1. Communicate with all intelligent channel cards.
2. Configure the DCS at DS0 level and obtain status information.
3. Change card parameters in real time.
4. Perform network troubleshooting and maintenance.



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SECTION 3 RF PERFORMANCE 6 GHz RADIO BAND

3.00 RF PERFORMANCE 6 GHz RADIO BAND

This section defines the RF performance characteristics for radio equipment operating in the 6GHz microwave radio band.

3.1 Regulatory Compliance

All radio equipment supplied under this contract shall be type accepted by the FCC for its intended use under this specification. Contractors shall supply the type acceptance numbers for each piece of equipment bid.

3.2 Capacity and Bandwidth

3.2.1 The equipment supplied for this band shall comply with the following requirements:

DS1 Capacity	Bandwidth in MHz
8	3.75
16	5
28	10
84	30

3.2.2 Contractors may provide other bandwidths as options. These shall be fully compliant with the current FCC Part 101 technical requirements.

3.3 Transmitter Requirements

The equipment shall have a minimum of two power levels that can be ordered. Contractors may provide additional power levels. The guaranteed power level ranges are:

High Power: Greater than or equal to +28 dBm.

Low Power: Less than or equal to + 21 dBm.

3.3.2 Automatic transmitter power control (ATPC) shall be available as an option. ATPC shall be triggered into the high-power configuration in response to an AGC alarm at a receive signal 10 dB above the 10E-6 BER point. If this is supplied as an option, it shall be capable of being disabled in the field by operator programming.

3.3.3 Frequency stability shall be ± 0.001 percent or greater over the full operating range of the equipment. The frequency source shall be synthesized.

3.4 Receiver Requirements

3.4.1 Receivers shall have the following receive thresholds as a guaranteed maximum level to obtain a BER of 10E-03 in a non-protected configuration.

Capacity	RSL (dB)
8DS1	-84
16DS1	-75
28DS1	-76



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84DS1

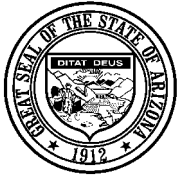
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- 3.4.2 Receiver threshold levels shall be measured at the top of the waveguide flange and shall include all branching losses.
- 3.4.3 Protected receivers in hot-standby, nondiversity configurations may have their signal levels reduced by the insertion of a receiver coupler. This coupler shall be available in two configurations; an equal loss coupler where the signal levels are split equally between the two receivers and an unequal loss coupler where the signals are split unequally between the two receivers with the primary receiver connected to the minimum loss port. Contractors shall detail the losses in both configurations in their responses.
- 3.4.4 The receiver frequency stability shall be ± 0.001 percent or better over the operating range of the receiver. The frequency source shall be synthesized and shall contain some form of automatic frequency control based on the input signal.
- 3.4.5 The dynamic range of the receiver shall be a minimum of 55 dB.

3.5 Interference Criteria

The threshold-to-interference ratio (dB) for a 1dB static threshold degradation at $10E-6$ BER for like signal frequency offsets from desired signals (Guaranteed @ 25 deg. C) shall be a minimum value as specified:

	8 DS1	16 DS1	28 DS1	84 DS1
Co-Channel	34dB	34dB	34dB	34dB
Adjacent Channel	-4dB	-4dB	-4dB	0dB



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SECTION 4 RF PERFORMANCE 11 GHz RADIO BAND

4.00 RF PERFORMANCE 10-11GHz BAND

This section defines the RF performance characteristics for radio equipment operating in the 10 and 11 GHz microwave radio band.

4.1 Regulatory Compliance

All radio equipment supplied under this contract shall be type accepted by the FCC for its intended use under this specification. Contractors shall supply the type acceptance numbers for each piece of equipment bid.

4.2 Capacity and Bandwidth

4.2.1 The equipment supplied for this band shall comply with the following requirements:

DS1 Capacity	Bandwidth in MHz
8	3.75
16	5
28	10
84	30

4.2.2 Contractors may provide other bandwidths as options. These shall be fully compliant with the current FCC Part 101 technical requirements.

4.3 Transmitter Requirements

4.3.1 The equipment shall have a minimum of two power levels that can be ordered. Contractors may provide additional power levels. The guaranteed power level ranges are:

High Power: Greater than or equal to +27 dBm

Low Power: Less than or equal to + 22 dBm

4.3.2 Power levels shall be measured at the top of the waveguide flange and shall include all branching losses.

4.3.3 Automatic transmitter power control (ATPC) shall be available as an option. ATPC shall be triggered into the high-power configuration in response to an AGC alarm at a receive signal 10 dB above the 10E-6 BER point. If this is supplied as an option, it shall be capable of being disabled in the field by operator programming.

4.3.4 Frequency stability shall be ± 0.002 percent or greater over the full operating range of the equipment. The frequency source shall be synthesized.

4.4 Receiver Requirements

4.4.1 Receivers shall have the following receive thresholds as a guaranteed maximum level to obtain a BER of 10E-3 in a non-protected configuration.

Capacity	RSL (dB)
8DS1	-81
16DS1	-75
28DS1	-76
84DS1	-68



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- 4.4.2 Received threshold levels shall be measured at the top of the waveguide flange and shall include all branching losses.
- 4.4.3 Protected receivers in hot-standby, non-diversity configurations may have their signal levels reduced by the insertion of a receiver coupler. This coupler shall be available in two configurations; an equal loss coupler where the signal levels are split equally between the two receivers and an unequal loss coupler where the signals are split unequally between the two receivers with the primary receiver connected to the minimum loss port. Contractors shall detail the losses in both configurations in their responses.
- 4.4.4 The receiver frequency stability shall be ± 0.002 percent or better over the operating range of the receiver. The frequency source shall be synthesized and shall contain some form of automatic frequency control based on the input signal.
- 4.4.5 The dynamic range of the receiver shall be a minimum of 55 dB

4.5 Interference Criteria

The threshold-to-interference ratio (dB) for a 1dB static threshold degradation at $10E-6$ BER for like signal frequency offsets from desired signal (Guaranteed @ 25 deg. C) shall be a minimum value as specified:

	8 DS1	16 DS1	28 DS1	84 DS1
Co-Channel	34dB	34dB	34dB	34dB
Adjacent Channel	-4dB	-4dB	-4dB	0dB



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SECTION 5 RF PERFORMANCE 18 GHz RADIO BAND

5.00 RF PERFORMANCE 18 GHz RADIO BAND

This section defines the RF performance characteristics for radio equipment operating in the 18 GHz microwave radio band

5.1 Regulatory Compliance

All radio equipment supplied under this contract shall be type accepted by the FCC for its intended use under this specification. Contractors shall supply the type acceptance numbers for each piece of equipment bid.

5.2 Capacity and Bandwidth

5.2.1 The equipment supplied for this band shall comply with the following requirements:

DS1 Capacity	Bandwidth in MHz
4	5
8	10
28	40

5.2.2 Contractors may provide other bandwidths as options. These shall be fully compliant with the current FCC Part 101 technical requirements.

5.3 Transmitter Requirements

5.3.1 The equipment shall have a minimum of two power levels that can be ordered. Contractors may provide additional power levels. The guaranteed minimum power levels are:

DS1 Capacity	Min. Std. Pwr. (dB)	Min. Opt. Pwr. (dB)
4	17	25
8	17	25
28	18	25

5.3.2 Frequency stability shall be ± 0.003 percent or greater over the full operating range of the equipment. The frequency source shall be synthesized.

5.4 Receiver Requirements

5.4.1 Receivers shall have the following receive thresholds as a guaranteed maximum level to obtain a $10E-03$ BER in a non-protected configuration.

Capacity	RSL (dB)
4DS1	-81
8DS1	-80
28DS1	-83

5.4.2 Received threshold levels shall be measured at the top of the waveguide flange and shall include all branching losses.



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- 5.4.3 Protected receivers in hot-standby, non-diversity configurations may have their signal levels reduced by the insertion of a receiver coupler. This coupler shall be available in two configurations; an equal loss coupler where the signal levels are split equally between the two receivers and an unequal loss coupler where the signals are split unequally between the two receivers with the primary receiver connected to the minimum loss port. Contractors shall detail the losses in both configurations in their responses.
- 5.4.4 The receiver frequency stability shall be ± 0.003 percent or better over the operating range of the receiver. The frequency source shall be synthesized and shall contain some form of automatic frequency control based on the input signal.
- 5.4.5 The dynamic range of the receiver shall be a minimum of 75 dB.

5.5 Interference Criteria

The threshold-to-interference ratio (dB) for a 1dB static threshold degradation at $10E-6$ BER for like signal frequency offsets from desired signal (Guaranteed @ 25 deg. C) shall be a minimum value as specified:

	4 DS1	8 DS1	28 DS1
Co-Channel	25dB	25dB	25dB
Adjacent Channel	3dB	3dB	3dB

5.6 Outdoor Mounted RF Unit

Where an outdoor mounted RF unit is supplied, it shall comply with the requirements of this section.

- 5.6.1 The operating temperature range shall be -30 degrees C to +55 degrees C.
- 5.6.2 The unit shall be weatherproof.
- 5.6.3 The outdoor RF unit shall connect to the indoor IF and control unit using a 50-ohm coaxial cable similar to RG-214 or equivalent. The coaxial cable shall transport signals and DC power to the RF unit.
- 5.6.4 The outdoor unit shall have a rack-mounting option so the outdoor unit may be collocated with the indoor unit.



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SECTION 6 RF PERFORMANCE 23 GHz RADIO BAND

6.00 RF PERFORMANCE 23GHz RADIO BAND

This section defines the RF performance characteristics for radio equipment operating in the 23 GHz microwave radio band.

6.1 Regulatory Compliance

All radio equipment supplied under this contract shall be type accepted by the FCC for its intended use under this specification. Contractors shall supply the type acceptance numbers for each piece of equipment bid.

6.2 Capacity and Bandwidth

6.2.1 The equipment supplied for this band shall comply with the following requirements:

DS1 Capacity	Bandwidth in MHz
4	5
8	10
28	40
84	50

6.2.2 Contractors may provide other bandwidths as options. These shall be fully compliant with the current FCC Part 101 technical requirements.

6.3 RF Power Levels

6.3.1 The equipment shall have a minimum of two power levels that can be ordered. Contractors may provide additional power levels. The guaranteed minimum power levels are:

DS1 Capacity	Min. Std. Pwr. (dB)	Min. Opt. Pwr. (dB)
4	17	25
8	17	25
28	18	25
84	19	25

6.3.2 Frequency stability shall be ± 0.003 percent or greater over the full operating range of the equipment. The frequency source shall be synthesized.

6.4 Receiver Requirements

6.4.1 Receivers shall have the following receive thresholds as a guaranteed maximum level to obtain a BER of $10E-3$ in a non-protected configuration.

Capacity	RSL (dB)
4 DS1	-82
8 DS1	-80
28 DS1	-82



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84 DS1

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- 6.4.2 Received threshold levels shall be measured at the top of the waveguide flange and shall include all branching losses.
- 6.4.3 Protected receivers in hot-standby, non-diversity configurations may have their signal levels reduced by the insertion of a receiver coupler. This coupler shall be available in two configurations—an equal loss coupler where the signal levels are split equally between the two receivers and an unequal loss coupler where the signals are split unequally between the two receivers with the primary receiver connected to the minimum loss port. Contractors shall detail the losses in both configurations in their responses.
- 6.4.4 The receiver frequency stability shall be ± 0.003 percent or better over the operating range of the receiver. The frequency source shall be synthesized and shall contain some form of automatic frequency control based on the input signal.
- 6.4.5 The dynamic range of the receiver shall be a minimum of 75 dB.

6.5 Interference Criteria

The threshold-to-interference ratio (dB) for a 1dB static threshold degradation at $10E-6$ BER for like signal frequency offsets from desired signal (Guaranteed @ 25 deg. C) shall be a minimum value as specified:

	4 DS1	8 DS1	28 DS1	84 DS1
Co-Channel	25dB	25dB	25dB	25dB
Adjacent Channel	3dB	3dB	3dB	3dB

6.6 Outdoor Mounted RF Unit

Where an outdoor mounted RF unit is supplied, it shall comply with the requirements of this section.

- 6.6.1 The operating temperature range shall be -30 degrees C to +55 degrees C.
- 6.6.2 The unit shall be weatherproof.
- 6.6.3 The outdoor RF unit shall connect to the indoor IF and control unit using a 50-ohm coaxial cable similar to RG-214 or equivalent. The coaxial cable shall transport signals and DC power to the RF unit.
- 6.6.4 The outdoor unit shall have a rack-mounting option so the outdoor unit may be co-located with the indoor unit.



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For the goods and/or services specified herein, the following apply:

- Delivery is required within 90 calendar days after receipt of an order. Offeror will deliver within 90 Days. (Refer to Special Terms and Conditions for delivery requirements.)
- Prompt Payment Discount: If payment is made within 10 calendar days after acceptance of goods and/or services, the above quoted price, excluding sales tax, shall be discounted by 2 %. This discount shall be applied to all Agency purchase transactions, excluding those initialized utilizing a credit or "Purchasing" card.
- Notice: The State will assume that the price(s) offered do not include any applicable transaction privilege (sales) taxes (Refer to Special Terms and Conditions TAXES).

NOTE: TADIRAN OFFERS IN ADDITION TO A TWO (2) YEAR WARRANTY A THIRD (3RD) YEAR OF WARRANTY AT NO ADDITIONAL COST.

TADIRAN ALSO OFFERS FREE TRAINING CLASSES FOR UP TO 10 STUDENTS TO BE HELD AT THEIR MANUFACTURING FACILITY IN HOUSTON , TEXAS ON ANY RADIO TYPE AS QUOTED IN THIS CONTRACT.

Item	Description	U/M	Price
1.0	6 GHz, 1 x DS3, Monitored Hot-Standby Microwave Terminal.	1 each	\$23,760
	In addition, the offeror shall provide pricing for all DS1 channel capacities described in Paragraph 3.2.1 and with protection configurations described in Paragraph 2.7.2.		
	MANUFACTURER: Tadiran Microwave Networks		
	MODEL NUMBER: 06CHSDS3		
	1. 4DS1N Radio Terminals		
	06CNS4DN CM6, NP, Std. Power, 4DS1N	1 each	\$14,160
	06CNH4DN CM6, NP, High Power, 4DS1N	1 each	\$15,040
	06CND4DN CM6, NP, DHP, 4DS1N	1 each	\$15,525
	06CMS4DN CM6, NP/SD, Std. Power, 4DS1N	1 each	\$19,776
	06CMH4DN CM6, NP/SD, High Power, 4DS1N	1 each	\$20,776
	06CMD4DN CM6, NP/SD, DHP, 4DS1N	1 each	\$21,103
	06CHS4DN CM6, MHSB, Std. Power, 4DS1N	1 each	\$23,275
	06CHH4DN CM6, MHSB, High Power, 4DS1N	1 each	\$24,150
	06CHD4DN CM6, MHSB, DHP, 4DS1N	1 each	\$24,725
	06CSS4DN CM6, HS/SD, Std. Power, 4DS1N	1 each	\$23,275
	06CSH4DN CM6, HS/SD, High Power, 4DS1N	1 each	\$24,675
	06CSD4DN CM6, HS/SD, DHP, 4DS1N	1 each	\$25,300



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Item	Description	U/M	Price
	2. 8DS1 Radio Terminals		
	06CNS8DW CM6, NP, Std. Power, 8DS1	1 each	\$14,070
	06CNH8DW CM6, NP, High Power, 8DS1	1 each	\$14,760
	06CND8DW CM6, NP, DHP, 8DS1	1 each	\$15,400
	06CMS8DW CM6, NP/SD, Std. Power, 8DS1	1 each	\$20,375
	06CMH8DW CM6, NP/SD, High Power, 8DS1	1 each	\$21,168
	06CMD8DW CM6, NP/SD, DHP, 8DS1	1 each	\$21,689
	06CHS8DW CM6, MHSB, Std. Power, 8DS1	1 each	\$23,310
	06CHH8DW CM6, MHSB, High Power, 8DS1	1 each	\$24,805
	06CHD8DW CM6, MHSB, DHP, 8DS1	1 each	\$25,545
	06CSS8DW CM6, HS/SD, Std. Power, 8DS1	1 each	\$23,310
	06CSH8DW CM6, HS/SD, High Power, 8DS1	1 each	\$24,805
	06CSD8DW CM6, HS/SD, DHP, 8DS1	1 each	\$25,545
	3. 12DS1 Radio Terminals		
	06CNS12D CM6, NP, Std. Power, 12DS1	1 each	\$14,625
	06CNH12D CM6, NP, High Power, 12DS1	1 each	\$15,600
	06CND12D CM6, NP, DHP, 12DS1	1 each	\$16,150
	06CMS12D CM6, NP/SD, Std. Power, 12DS1	1 each	\$21,067
	06CMH12D CM6, NP/SD, High Power, 12DS1	1 each	\$22,192
	06CMD12D CM6, NP/SD, DHP, 12DS1	1 each	\$22,533
	06CHS12D CM6, MHSB, Std. Power, 12DS1	1 each	\$23,495
	06CHH12D CM6, MHSB, High Power, 12DS1	1 each	\$25,345
	06CHD12D CM6, MHSB, DHP, 12DS1	1 each	\$26,093
	06CSS12D CM6, HS/SD, Std. Power, 12DS1	1 each	\$24,130
	06CSH12D CM6, HS/SD, High Power, 12DS1	1 each	\$25,345
	06CSD12D CM6, HS/SD, DHP, 12DS1	1 each	\$26,093
	4. DS3 Radio Terminals		
	06CNSDS3 CM6, NP, Std. Power, DS3	1 each	\$14,733
	06CNHDS3 CM6, NP, High Power, DS3	1 each	\$15,620
	06CNDSD3 CM6, NP, DHP, DS3	1 each	\$16,275
	06CMSDS3 CM6, NP/SD, Std. Power, DS3	1 each	\$20,911
	06CMHDS3 CM6, NP/SD, High Power, DS3	1 each	\$22,077
	06CMDSD3 CM6, NP/SD, DHP, DS3	1 each	\$22,902
	06CHHDS3 CM6, MHSB, High Power, DS3	1 each	\$25,410
	06CHDSD3 CM6, MHSB, DHP, DS3	1 each	\$26,240
	06CSSDS3 CM6, HS/SD, Std. Power, DS3	1 each	\$23,760
	06CSHDS3 CM6, HS/SD, High Power, DS3	1 each	\$25,410
	06CSDDSD3 CM6, HS/SD, DHP, DS3	1 each	\$26,240
	5. 28DS1 Radio Terminals		



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Item	Description	U/M	Price
	06CNS28D CM6, NP, Std. Power, 28DS1	1 each	\$15,640
	06CNH28D CM6, NP, High Power, 28DS1	1 each	\$16,490
	06CND28D CM6, NP, DHP, 28DS1	1 each	\$17,340
	06CMS28D CM6, NP/SD, Std. Power, 28DS1	1 each	\$22,611
	06CMH28D CM6, NP/SD, High Power, 28DS1	1 each	\$23,529
	06CMD28D CM6, NP/SD, DHP, 28DS1	1 each	\$24,304
	06CHS28D CM6, MHSB, Std. Power, 28DS1	1 each	\$25,110
	06CHH28D CM6, MHSB, High Power, 28DS1	1 each	\$26,660
	06CHD28D CM6, MHSB, DHP, 28DS1	1 each	\$27,300
	06CSS28D CM6, HS/SD, Std. Power, 28DS1	1 each	\$25,110
	06CSH28D CM6, HS/SD, High Power, 28DS1	1 each	\$26,660
	06CSD28D CM6, HS/SD, DHP, 28DS1	1 each	\$27,300
	6. 3DS3 Radio Terminals		
	06CNS3D3 CM6, NP, Std. Power, 3DS3	1 each	\$15,700
	06CNH3D3 CM6, NP, High Power, 3DS3	1 each	\$16,450
	06CND3D3 CM6, NP, DHP, 3DS3	1 each	\$17,200
	06CMS3D3 CM6, NP/SD, Std. Power, 3DS3	1 each	\$22,706
	06CMH3D3 CM6, NP/SD, High Power, 3DS3	1 each	\$23,505
	06CMD3D3 CM6, NP/SD, DHP, 3DS3	1 each	\$25,061
	06CHS3D3 CM6, MHSB, Std. Power, 3DS3	1 each	\$25,455
	06CHH3D3 CM6, MHSB, High Power, 3DS3	1 each	\$26,805
	06CHD3D3 CM6, MHSB, DHP, 3DS3	1 each	\$28,561
	06CSS3D3 CM6, HS/SD, Std. Power, 3DS3	1 each	\$25,455
	06CSH3D3 CM6, HS/SD, High Power, 3DS3	1 each	\$26,805
	06CSD3D3 CM6, HS/SD, DHP, 3DS3	1 each	\$28,561
	7. Rack Mounting Options		
	MLN7071A 7.0' x 19" Rack	1 each	\$320
	MLN7072A 7.5' x 19" Rack	1 each	\$380
	MLN7073A 8.0' x 19" Rack	1 each	\$600
	8. Radio Options		
	IHTR1AFTB1 Trimm Fuse/Terminal Block Panel	1 each	\$410
	MLN7876B Service Channel Unit (for redundancy)	1 each	\$368
	IHDSA196814600 External Speaker/Amplifier for Orderwire	1 each	\$292
	8708192-00 Status & Control Extender Kit	1 each	\$1,031
	8708191-00 TeleScan Network Management Unit Kit	1 each	\$578
	8708231-00 SNMP Network Management Unit Kit	1 each	\$578
	MLN7330A Wayside Traffic Unit	1 each	\$420
	MLN8003A Palmtop Maintenance Terminal	1 each	\$672



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Item	Description	U/M	Price
	9. Waveguide Extension Options		
	MLH8073A W/G Ext. for Lower Radio, NP or MHSB	1 each	\$366
	MLH8074A W/G Ext. for Lower Radio, SD	1 each	\$732
	9900103-00 24" Flex Waveguide Jumper	1 each	\$275
	10.		
	11. Upgrade Kits to Increase Channel Capacity		
	12. Non-Protected Radio Terminals		
	4DS1 to 8DS1 Capacity Upgrade	1 each	\$2,804
	4DS1 to 12DS1 Capacity Upgrade	1 each	\$4,286
	8DS1 to 12DS1 Capacity Upgrade	1 each	\$1,286
	4, 8, or 12DS1 to DS3 Capacity Upgrade	1 each	\$4,663
	4, 8, or 12DS1 to 28DS1 Capacity Upgrade	1 each	\$5,881
	4, 8, or 12DS1 to 3DS3 Capacity Upgrade	1 each	\$5,997
	DS3 to 28DS1 Capacity Upgrade	1 each	\$2,672
	DS3 or 28DS1 to 3DS3 Capacity Upgrade	1 each	\$5,696
	13.		
	14. Upgrade Kits to Increase Channel Capacity		
	15. Protected & Space Diversity Radio Terminals		
	4DS1 to 8DS1 Capacity Upgrade	1 each	\$5,784
	4DS1 to 12DS1 Capacity Upgrade	1 each	\$8,841
	8DS1 to 12DS1 Capacity Upgrade	1 each	\$2,550
	4, 8, or 12DS1 to DS3 Capacity Upgrade	1 each	\$9,059
	4, 8, or 12DS1 to 28DS1 Capacity Upgrade	1 each	\$10,762
	4, 8, or 12DS1 to 3DS3 Capacity Upgrade	1 each	\$12,315
	DS3 to 28DS1 Capacity Upgrade	1 each	\$5,344
	DS3 or 28DS1 to 3DS3 Capacity Upgrade	1 each	\$11,662
	16. Upgrade Kits for Protection Configuration		



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Item	Description	U/M	Price
	17. Non-Protected to 1+1 Protection		
	4DS1 Non-Protected (NN) to Hot-Standby (HH)		
	Standard Power	1 each	\$14,709
	High Power	1 each	\$15,716
	DHP	1 each	\$16,220
	8DS1 Non-Protected (NN) to Hot-Standby (HH)		
	Standard Power	1 each	\$14,819
	High Power	1 each	\$15,712
	DHP	1 each	\$16,158
	12DS1 Non-Protected (NN) to Hot-Standby (HH)		
	Standard Power	1 each	\$15,188
	High Power	1 each	\$15,986
	DHP	1 each	\$16,385
	28DS1 Non-Protected (NN) to Hot-Standby (HH)		
	Standard Power	1 each	\$17,044
	High Power	1 each	\$17,766
	DHP	1 each	\$17,766
	DS3 Non-Protected (NN) to Hot-Standby (HH)		
	Standard Power	1 each	\$15,994
	High Power	1 each	\$16,335
	DHP	1 each	\$16,705
	3DS3 Non-Protected (NN) to Hot-Standby (HH)		
	Standard Power	1 each	\$18,459
	High Power	1 each	\$19,162
	DHP	1 each	\$19,513
	18. Upgrade Kits for Protection Configuration		
	19. Non-Protected to 1+1 Space Diversity Protection		
	4DS1 Non-Protected (NN) to Space Diversity (HS)		
	Standard Power	1 each	\$15,382
	High Power	1 each	\$16,389
	DHP	1 each	\$16,892
	8DS1 Non-Protected (NN) to Space Diversity (HS)		
	Standard Power	1 each	\$15,415
	High Power	1 each	\$16,308
	DHP	1 each	\$16,755
	12DS1 Non-Protected (NN) to Space Diversity (HS)		
	Standard Power	1 each	\$15,721
	High Power	1 each	\$16,519
	DHP	1 each	\$16,918



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Item	Description	U/M	Price
	28DS1 Non-Protected (NN) to Space Diversity (HS)		
	Standard Power	1 each	\$17,527
	High Power	1 each	\$18,249
	DHP	1 each	\$18,249
	DS3 Non-Protected (NN) to Space Diversity (HS)		
	Standard Power	1 each	\$16,502
	High Power	1 each	\$16,830
	DHP	1 each	\$17,200
	3DS3 Non-Protected (NN) to Space Diversity (HS)		
	Standard Power	1 each	\$18,928
	High Power	1 each	\$19,631
	DHP	1 each	\$19,983
	20. Upgrade Kits for Protection Configuration		
	21. 1+1 Protected to 1+1 Space Diversity Protection		
	All Data Rates, All Power Options	1 each	\$1,009
	Order Wire Option(Protected)	1 each	N/A
	Order Wire Option(Non-Protected)	1 each	\$420
	Recommended Spare Parts Option		
	22. RF Spares		
	MPN8187A RF Power Supply	1 each	\$560
	MTH-6TXSP Transmitter Module, Std. Power	1 each	\$3,112
	MTH-6TXHP Transmitter Module, High Power	1 each	\$3,912
	MTH-6TXDHP Transmitter Module, DHP	1 each	\$4,312
	MRH-6RX Receiver Module	1 each	\$2,748
	23. SP Spares		
	MPN6050B Signal Processing Power Supply	1 each	\$480
	MLN7195E Alarm and Control Unit	1 each	\$560
	MLN1532A Network Management Unit	1 each	\$473
	MLN7876B Service Channel Unit	1 each	\$368
	MLN7201A Orderwire Unit	1 each	\$420
	MLN1467A Status and Control Extender	1 each	\$1,031
	MLN7330A Wayside Traffic Unit	1 each	\$420
	MLN7238B Syndes (4DS1)	1 each	\$750
	MLN7237B Syndes (8DS1)	1 each	\$830



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Item	Description	U/M	Price
	MLN7191A Syndes (12DS1)	1 each	\$1,354
	MLN7338B Syndes (DS3)	1 each	\$1,225
	MLN7899A Syndes (28DS1)	1 each	\$2,250
	MLN7864B Syndes (3DS3)	1 each	\$3,190
	MLN7346A Modulator (2.5 MHz)	1 each	\$550
	MLN7521A Demodulator (2.5 MHz)	1 each	\$975
	MLN7350A Mux (2.5 MHz)	1 each	\$600
	MLN7192A Modulator (3.75 MHz)	1 each	\$563
	MLN7193A Demodulator (3.75 MHz)	1 each	\$1,024
	MLN7194A Mux (3.75 MHz)	1 each	\$698
	MLN7339A Modulator (10 MHz)	1 each	\$1,034
	MLN7340A Demodulator (10 MHz)	1 each	\$2,016
	MLN7341A Mux (10 MHz)	1 each	\$910
	MLN7404A ATDE (10 MHz)	1 each	\$840
	MLN7853A Modulator (30 MHz)	1 each	\$1,094
	8000515-01 Demodulator (30 MHz)	1 each	\$2,258
	MLN7890A Mux (30 MHz)	1 each	\$1,059



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Item	Description	U/M	Price
2.0	11GHz, 1 x DS3, Monitored Hot-Standby Microwave Terminal	1 each	\$26,425
	In addition, the offeror shall provide pricing for all DS1 channel capacities described in Paragraph 4.2.1 and with protection configurations described in Paragraph 2.7.2.		
	MANUFACTURER: Tadiran Microwave Networks		
	MODEL NUMBER: 11CHSDS3		
	24. 4DS1N Radio Terminals		
	11CNS4DN CM11, NP, Std. Power, 4DS1N	1 each	\$14,880
	11CNH4DN CM11, NP, High Power, 4DS1N	1 each	\$15,745
	11CMS4DN CM11, NP/SD, Std. Power, 4DS1N	1 each	\$21,809
	11CMH4DN CM11, NP/SD, High Power, 4DS1N	1 each	\$22,226
	11CHS4DN CM11, MHSB, Std. Power, 4DS1N	1 each	\$26,000
	11CHH4DN CM11, MHSB, High Power, 4DS1N	1 each	\$26,950
	11CSS4DN CM11, HS/SD, Std. Power, 4DS1N	1 each	\$26,285
	11CSH4DN CM11, HS/SD, High Power, 4DS1N	1 each	\$27,500
	25. 8DS1 Radio Terminals		
	11CNS8DW CM11, NP, Std. Power, 8DS1	1 each	\$15,050
	11CNH8DW CM11, NP, High Power, 8DS1	1 each	\$15,750
	11CMS8DW CM11, NP/SD, Std. Power, 8DS1	1 each	\$21,974
	11CMH8DW CM11, NP/SD, High Power, 8DS1	1 each	\$22,747
	11CHS8DW CM11, MHSB, Std. Power, 8DS1	1 each	\$25,520
	11CHH8DW CM11, MHSB, High Power, 8DS1	1 each	\$27,090
	11CSS8DW CM11, HS/SD, Std. Power, 8DS1	1 each	\$26,100
	11CSH8DW CM11, HS/SD, High Power, 8DS1	1 each	\$27,720
	26.		
	27. 12DS1 Radio Terminals		
	11CNS12D CM11, NP, Std. Power, 12DS1	1 each	\$15,210
	11CNH12D CM11, NP, High Power, 12DS1	1 each	\$16,185
	11CMS12D CM11, NP/SD, Std. Power, 12DS1	1 each	\$22,207
	11CMH12D CM11, NP/SD, High Power, 12DS1	1 each	\$23,332
	11CHS12D CM11, MHSB, Std. Power, 12DS1	1 each	\$25,935
	11CHH12D CM11, MHSB, High Power, 12DS1	1 each	\$27,170
	11CSS12D CM11, HS/SD, Std. Power, 12DS1	1 each	\$26,600
	11CSH12D CM11, HS/SD, High Power, 12DS1	1 each	\$27,885
	28. DS3 Radio Terminals		



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	11CNSDS3	CM11, NP, Std. Power, DS3	1 each	\$15,660
	11CNHDS3	CM11, NP, High Power, DS3	1 each	\$16,560
	11CMSDS3	CM11, NP/SD, Std. Power, DS3	1 each	\$22,255
	11CMHDS3	CM11, NP/SD, High Power, DS3	1 each	\$23,232
	11CHHDS3	CM11, MHSB, High Power, DS3	1 each	\$28,175
	11CSSDS3	CM11, HS/SD, Std. Power, DS3	1 each	\$26,425
	11CSHDS3	CM11, HS/SD, High Power, DS3	1 each	\$28,175
	29.			
	30. 28DS1 Radio Terminals			
	11CNS28D	CM11, NP, Std. Power, 28DS1	1 each	\$16,490
	11CNH28D	CM11, NP, High Power, 28DS1	1 each	\$17,340
	11CMS28D	CM11, NP/SD, Std. Power, 28DS1	1 each	\$23,851
	11CMH28D	CM11, NP/SD, High Power, 28DS1	1 each	\$24,769
	11CHS28D	CM11, MHSB, Std. Power, 28DS1	1 each	\$28,050
	11CHH28D	CM11, MHSB, High Power, 28DS1	1 each	\$29,700
	11CSS28D	CM11, HS/SD, Std. Power, 28DS1	1 each	\$28,900
	11CSH28D	CM11, HS/SD, High Power, 28DS1	1 each	\$29,700
	31. 3DS3 Radio Terminals			
	11CNS3D3	CM11, NP, Std. Power, 3DS3	1 each	\$16,585
	11CNH3D3	CM11, NP, High Power, 3DS3	1 each	\$17,360
	11CMS3D3	CM11, NP/SD, Std. Power, 3DS3	1 each	\$23,521
	11CMH3D3	CM11, NP/SD, High Power, 3DS3	1 each	\$24,320
	11CHS3D3	CM11, MHSB, Std. Power, 3DS3	1 each	\$26,400
	11CHH3D3	CM11, MHSB, High Power, 3DS3	1 each	\$27,775
	11CSS3D3	CM11, HS/SD, Std. Power, 3DS3	1 each	\$26,880
	11CSH3D3	CM11, HS/SD, High Power, 3DS3	1 each	\$28,280
	32. Rack Mounting Options			
	MLN7071A	7.0' x 19" Rack	1 each	\$320
	MLN7072A	7.5' x 19" Rack	1 each	\$380
	MLN7073A	8.0' x 19" Rack	1 each	\$600
	33. Radio Options			
	IHTR1AFTB1	Trimm Fuse/Terminal Block Panel	1 each	\$410
	MLN7876B	Service Channel Unit (for redundancy)	1 each	\$368
	IHDSA196814600	External Speaker/Amplifier for Orderwire	1 each	\$292
	8708192-00	Status & Control Extender Kit	1 each	\$1,031
	8708191-00	TeleScan Network Management Unit Kit	1 each	\$578
	8708231-00	SNMP Network Management Unit Kit	1 each	\$578



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	MLN7330A	Wayside Traffic Unit	1 each	\$420
	MLN8003A	Palmtop Maintenance Terminal	1 each	\$672
	34. Waveguide Extension Options			
	MLJ8093A	W/G Ext. for Lower Radio, NP or MHSB	1 each	\$372
	MLJ8094A	W/G Ext. for Lower Radio, SD	1 each	\$745
	9520198A00	24" Flex Waveguide Jumper (11 GHz)	1 each	\$350
	35.			
	36. Upgrade Kits to Increase Channel Capacity			
	37. Non-Protected Radio Terminals			
	4DS1 to 8DS1 Capacity Upgrade		1 each	\$2,804
	4DS1 to 12DS1 Capacity Upgrade		1 each	\$4,286
	8DS1 to 12DS1 Capacity Upgrade		1 each	\$1,286
	4, 8, or 12DS1 to DS3 Capacity Upgrade		1 each	\$4,663
	4, 8, or 12DS1 to 28DS1 Capacity Upgrade		1 each	\$5,881
	4, 8, or 12DS1 to 3DS3 Capacity Upgrade		1 each	\$5,997
	DS3 to 28DS1 Capacity Upgrade		1 each	\$2,672
	DS3 or 28DS1 to 3DS3 Capacity Upgrade		1 each	\$5,696
	38.			
	39. Upgrade Kits to Increase Channel Capacity			
	40. Protected & Space Diversity Radio Terminals			
	4DS1 to 8DS1 Capacity Upgrade		1 each	\$5,784
	4DS1 to 12DS1 Capacity Upgrade		1 each	\$8,841
	8DS1 to 12DS1 Capacity Upgrade		1 each	\$2,572
	4, 8, or 12DS1 to DS3 Capacity Upgrade		1 each	\$9,059
	4, 8, or 12DS1 to 28DS1 Capacity Upgrade		1 each	\$10,762
	4, 8, or 12DS1 to 3DS3 Capacity Upgrade		1 each	\$12,315
	DS3 to 28DS1 Capacity Upgrade		1 each	\$5,344
	DS3 or 28DS1 to 3DS3 Capacity Upgrade		1 each	\$11,662
	41.			
	42. Upgrade Kits for Protection			



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Configuration		
43. Non-Protected to 1+1 Protection		
4DS1 Non-Protected (NN) to Hot-Standby (HH)		
Standard Power	1 each	\$14,895
High Power	1 each	\$16,405
8DS1 Non-Protected (NN) to Hot-Standby (HH)		
Standard Power	1 each	\$14,983
High Power	1 each	\$16,323
12DS1 Non-Protected (NN) to Hot-Standby (HH)		
Standard Power	1 each	\$15,334
High Power	1 each	\$16,531
28DS1 Non-Protected (NN) to Hot-Standby (HH)		
Standard Power	1 each	\$17,177
High Power	1 each	\$18,260
DS3 Non-Protected (NN) to Hot-Standby (HH)		
Standard Power	1 each	\$16,134
High Power	1 each	\$16,842
3DS3 Non-Protected (NN) to Hot-Standby (HH)		
Standard Power	1 each	\$18,588
High Power	1 each	\$19,643
44. Upgrade Kits for Protection Configuration		
45. Non-Protected to 1+1 Space Diversity Protection		
4DS1 Non-Protected (NN) to Space Diversity (HS)		
Standard Power	1 each	\$14,828
High Power	1 each	\$16,339
8DS1 Non-Protected (NN) to Space Diversity (HS)		
Standard Power	1 each	\$14,924
High Power	1 each	\$16,264
12DS1 Non-Protected (NN) to Space Diversity (HS)		
Standard Power	1 each	\$15,334
High Power	1 each	\$16,531
28DS1 Non-Protected (NN) to Space Diversity (HS)		
Standard Power	1 each	\$17,177
High Power	1 each	\$18,260
DS3 Non-Protected (NN) to Space Diversity (HS)		
Standard Power	1 each	\$16,134
High Power	1 each	\$16,842
3DS3 Non-Protected (NN) to Space Diversity (HS)		
Standard Power	1 each	\$18,588
High Power	1 each	\$19,643



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46. Upgrade Kits for Protection Configuration

47. 1+1 Protected to 1+1 Space Diversity Protection

All Data Rates, All Power Options

1 each

\$919

Order Wire Option(Protected)

1 each

N/A

Order Wire Option(Non-Protected)

1 each

\$420

Recommended Spare Parts Option

48. RF Spares

MPN8187A RF Power Supply

1 each

\$560

MTH-11TXSP Transmitter Module, Std. Power

1 each

\$3,968

MTH-11TXHP Transmitter Module, High Power

1 each

\$4,635

MRH-11RX Receiver Module (10.70-10.87 GHz)

1 each

\$3,140

49. SP Spares

MPN6050B Signal Processing Power Supply

1 each

\$480

MLN7195E Alarm and Control Unit

1 each

\$560

MLN1532A Network Management Unit

1 each

\$473

MLN7876B Service Channel Unit

1 each

\$368

MLN7201A Orderwire Unit

1 each

\$420

MLN1467A Status and Control Extender

1 each

\$1,031

MLN7330A Wayside Traffic Unit

1 each

\$420

MLN7238B Syndes (4DS1)

1 each

\$750

MLN7237B Syndes (8DS1)

1 each

\$830

MLN7191A Syndes (12DS1)

1 each

\$1,354

MLN7338B Syndes (DS3)

1 each

\$1,225

MLN7899A Syndes (28DS1)

1 each

\$2,250

MLN7864B Syndes (3DS3)

1 each

\$3,190

MLN7346A Modulator (2.5 MHz)

1 each

\$550

MLN7521A Demodulator (2.5 MHz)

1 each

\$975

MLN7350A Mux (2.5 MHz)

1 each

\$600

MLN7192A Modulator (3.75 MHz)

1 each

\$563

MLN7193A Demodulator (3.75 MHz)

1 each

\$1,024

MLN7194A Mux (3.75 MHz)

1 each

\$698

MLN7339A Modulator (10 MHz)

1 each

\$1,034

MLN7340A Demodulator (10 MHz)

1 each

\$2,016

MLN7341A Mux (10 MHz)

1 each

\$910



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	MLN7404A	ATDE (10 MHz)	1 each	\$840
	MLN7853A	Modulator (30 MHz)	1 each	\$1,094
	8000515-01	Demodulator (30 MHz)	1 each	\$2,258
	MLN7890A	Mux (30 MHz)	1 each	\$1,059



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Item	Description	U/M	Price
3.0	18GHz, 1 x DS3, Monitored Hot-Standby Microwave Terminal	1 each	\$18,187
	In addition, the offeror shall provide pricing for all DS1 channel capacities described in Paragraph 5.2.1 and with protection configurations described in Paragraph 2.7.2.		
	MANUFACTURER: Tadiran Microwave Networks		
	MODEL NUMBER: PRO18P1SDS3		
	50. Non-Protected Terminals		
	PRO18NPS2DS Proteus 18 Radio Terminal, NP, 2DS1	1 each	\$6,568
	PRO18NPS4DS Proteus 18 Radio Terminal, NP, 4DS1	1 each	\$6,701
	PRO18NPS8DS Proteus 18 Radio Terminal, NP, 8DS1	1 each	\$7,101
	PRO18NPS16D Proteus 18 Radio Terminal, NP, 16DS1	1 each	\$8,043
	PRO18NPSDS3 Proteus 18 Radio Terminal, NP, DS3	1 each	\$8,043
	PRO18NPSIPD Proteus 18 Radio Terminal, NP, 2X10/100BaseT+4 DS1	1 each	\$9,643
	PRO18NPSSTS Proteus 18 Radio Terminal, NP, STS-1	1 each	\$9,643
	51. Monitored Hot Standby Terminals – 1		
	PRO18P1S2DS Proteus 18 Radio Terminal, MHSB-1, 2 DS1	1 each	\$15,233
	PRO18P1S4DS Proteus 18 Radio Terminal, MHSB-1, 4 DS1	1 each	\$15,500
	PRO18P1S8DS Proteus 18 Radio Terminal, MHSB-1, 8 DS1	1 each	\$16,300
	PRO18P1S16D Proteus 18 Radio Terminal, MHSB-1, 16 DS1	1 each	\$17,987
	PRO18P1S1PD Proteus 18 Radio Terminal, MHSB-1, 2X10/100BaseT+4 DS1	1 each	\$21,387
	PRO18P1SSTS Proteus 18 Radio Terminal, MHSB-1, STS-1	1 each	\$21,391
	52. Monitored Hot Standby Terminals – 2		
	PRO18P2S2DS Proteus 18 Radio Terminal, MHSB-2, 2 DS1	1 each	\$14,060
	PRO18P2S4DS Proteus 18 Radio Terminal, MHSB-2, 4 DS1	1 each	\$14,327
	PRO18P2S8DS Proteus 18 Radio Terminal, MHSB-2, 8 DS1	1 each	\$15,126
	PRO18P2S16D Proteus 18 Radio Terminal, MHSB-2, 16 DS1	1 each	\$17,013
	PRO18P2SDS3 Proteus 18 Radio Terminal, MHSB-2, DS3	1 each	\$17,013
	PRO18P2S1PD Proteus 18 Radio Terminal, MHSB-2, 2X10/100BaseT+4 DS1	1 each	\$20,213
	PRO18P2SSTS Proteus 18 Radio Terminal, MHSB-2, STS-1	1 each	\$20,216
	53. Antennas and Mounting Kits		
	9900241-00 1 Ft. Antenna w/Mount, 18 GHz	1 each	\$307
	9900246-00 2 Ft. Antenna w/Mount, 18 GHz	1 each	\$522
	9900251-00 3 Ft. Antenna w/Mount, 18 GHz	1 each	\$920
	9900255-00 4 Ft. Antenna w/Mount, 18 GHz	1 each	\$1,436
	3800003-24 24" Flex Twist, WR42	1 each	\$238
	8208170-00 48" Flex Twist, WR42	1 each	\$734



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	63MNT1018-00	1+0 ODU Mount	1 each	\$452
	63AAD18-00	ODU to Flex Adapter	1 each	\$143
	Belden 9913 Baseband Cable (for distances up to 400 feet)			
	3710023-00	Baseband Cable (per cable)	1 each	\$1
		"N" Type Baseband Cable Connector (2 Req'd per cable run)	1 each	\$7
	63LPR-00	Surge Suppressor	1 each	\$264
	A. CAC Wide Bank 28 M13 Mux			
	9560362A00	CAC Wide Bank 28, Non-Redundant, 28DS1	1 each	\$4,286
	9560361A00	CAC Wide Bank 28, Redundant, 28DS1	1 each	\$5,996
	Order Wire Option(Protected)			
	Order Wire Option(Non-Protected)			
	Recommended Spare Parts Option			
	63ODU11X18-00	18 GHz ODU	1 each	\$4,915
	63IDU2001-00	IDU w/o Plug-ins	1 each	\$2,181
	54. Non-Protected			
	63PIN12161-00	DS3 plus 1-16 DS1 Plug-in	1 each	\$2,786
	63PIN31000-00	STS-1 Plug-in	1 each	\$4,829
	63PIN42042-00	2X10/100BaseT+4 DS1 Plug-in	1 each	\$4,947
	55. Monitored Hot Standby			
	63PIN13161-00	DS3 plus 1-16 DS1 Plug-in	1 each	\$2,786
	63PIN33000-00	STS-1 Plug-in	1 each	\$4,829
	63RDKX2161C18261ANT-00	Redundancy Kit for 1 Antenna	1 each	\$3,405
	63RDKX2161C2ANT-00	Redundancy Kit for 2 Antenna	1 each	\$2,010
	63RSU-00	Redundant Switch Unit Chassis	1 each	\$2,354
	63RPIX2161-00	Redundancy Switch Plug-in	1 each	Included
	63DRW11U-00	Upper Interconnect Assy.	1 each	Included
	63DRW11L-00	Lower Interconnect Assy.	1 each	Included
	63OPA1826C-00	ODU Protected Mounting Assy.	1 each	\$1,706
	56. CAC Spares			
	DS930-0079-AC	Shelf Assembly	1 each	\$705
	DS740-0187	DS3 Controller Board	1 each	\$1,073
	DS740-0172	Quad DSX-1 Interface Board	1 each	\$354



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Item	Description	U/M	Price
4.0	23GHz, 1 x DS3, Monitored Hot-Standby Microwave Terminal	1 each	\$18,187
	In addition, the offeror shall provide pricing for all DS1 channel capacities described in Paragraph 6.2.1 and with protection configurations described in Paragraph 2.7.2.		
	MANUFACTURER: Tadiran Microwave Networks		
	MODEL NUMBER: PRO23P1SDS3		
	57. Non-Protected Terminals		
	PRO23NPS2DS Proteus 23 Radio Terminal, NP, 2DS1	1 each	\$6,568
	PRO23NPS4DS Proteus 23 Radio Terminal, NP, 4DS1	1 each	\$6,701
	PRO23NPS8DS Proteus 23Radio Terminal, NP, 8DS1	1 each	\$7,101
	PRO23NPS16D Proteus 23 Radio Terminal, NP, 16DS1	1 each	\$8,043
	PRO23NPSDS3 Proteus 23 Radio Terminal, NP, DS3	1 each	\$8,043
	PRO23NPSIPD Proteus 23 Radio Terminal, NP, 2X10/100BaseT+4 DS1	1 each	\$9,643
	PRO23NPSSTS Proteus 23 Radio Terminal, NP, STS-1	1 each	\$9,633
	58. Monitored Hot Standby Terminals - 1		
	PRO23P1S2DS Proteus 23 Radio Terminal, MHSB-1, 2 DS1	1 each	\$15,233
	PRO23P1S4DS Proteus 23 Radio Terminal, MHSB-1, 4 DS1	1 each	\$15,500
	PRO23P1S8DS Proteus 23 Radio Terminal, MHSB-1, 8 DS1	1 each	\$16,300
	PRO23P1S16D Proteus 23 Radio Terminal, MHSB-1, 16 DS1	1 each	\$17,987
	PRO23P1S1PD Proteus 23 Radio Terminal, MHSB-1, 2X10/100BaseT+4 DS1	1 each	\$21,387
	PRO23P1SSTS Proteus 23 Radio Terminal, MHSB-1, STS-1	1 each	\$21,391
	59. Monitored Hot Standby Terminals - 2		
	PRO23P2S2DS Proteus 23 Radio Terminal, MHSB-2, 2 DS1	1 each	\$14,060
	PRO23P2S4DS Proteus 23 Radio Terminal, MHSB-2, 4 DS1	1 each	\$14,327
	PRO23P2S8DS Proteus 23 Radio Terminal, MHSB-2, 8 DS1	1 each	\$15,126
	PRO23P2S16D Proteus 23 Radio Terminal, MHSB-2, 16 DS1	1 each	\$17,013
	PRO23P2SDS3 Proteus 23 Radio Terminal, MHSB-2, DS3	1 each	\$17,013
	PRO23P2S1PD Proteus 23 Radio Terminal, MHSB-2, 2X10/100BaseT+4 DS1	1 each	\$20,213
	PRO23P2SSTS Proteus 23 Radio Terminal, MHSB-2, STS-1	1 each	\$20,216
	60. Antennas and Mounting Kits		
	990024200 1 Ft. Antenna w/Mount, 23 GHz	1 each	\$307
	9900247-00 2 Ft. Antenna w/Mount, 23 GHz	1 each	\$522
	9900252-00 3 Ft. Antenna w/Mount, 23 GHz	1 each	\$920
	9900256-00 4 Ft. Antenna w/Mount, 23 GHz	1 each	\$1,436
	3800003-24 24" Flex Twist, WR42	1 each	\$238
	8208170-00 48" Flex Twist, WR42	1 each	\$734



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	63MNT1023-00	1+0 ODU Mount	1 each	\$452
	63AAD23-00	ODU to Flex Adapter	1 each	\$143
	Belden 9913 Baseband Cable (for distances up to 400 feet)			
	3710023-00	Baseband Cable (per foot)	1 each	\$1
		"N" Type Baseband Cable Connector (2 Req'd per cable run)	1 each	\$7
	63LPR-00	Surge Supressor	1 each	\$264
	A. CAC Wide Bank 28 M13 Mux			
	9560362A00	CAC Wide Bank 28, Non-Redundant, 28DS1	1 each	\$4,286
	9560361A00	CAC Wide Bank 28, Redundant, 28DS1	1 each	\$5,996
	Order Wire Option(Protected)			
	Order Wire Option(Non-Protected)			
	Recommended Spare Parts Option			
	63ODU11X23-00	23 GHz ODU	1 each	\$4,915
	63IDU2001-00	IDU w/o Plug-ins	1 each	\$2,181
	61. Non-Protected			
	63PIN12161-00	DS3 plus 1-16 DS1 Plug-in	1 each	\$2,786
	63PIN31000-00	STS-1 Plug-in	1 each	\$4,829
	63PIN42042-00	2X10/100BaseT+4 DS1 Plug-in	1 each	\$4,947
	62. Monitored Hot Standby			
	63PIN13161-00	DS3 plus 1-16 DS1 Plug-in	1 each	\$2,786
	63PIN33000-00	STS-1 Plug-in	1 each	\$4,829
	63RDKX2161C18261ANT-00	Redundancy Kit for 1 Antenna	1 each	\$3,405
	63RDKX2161C2ANT-00	Redundancy Kit for 2 Antenna	1 each	\$2,010
	63RSU-00	Redundant Switch Unit Chassis	1 each	\$2,354
	63RPIX2161-00	Redundancy Switch Plug-in	1 each	Included
	63DRW11U-00	Upper Interconnect Assy.	1 each	Included
	63DRW11L-00	Lower Interconnect Assy.	1 each	Included
	63OPA1826C-00	ODU Protected Mounting Assy.	1 each	\$1,706
	63. CAC Spares			
	DS930-0079-AC	Shelf Assembly	1 each	\$705
	DS740-0187	DS3 Controller Board	1 each	\$1,073



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	DS740-0172	Quad DSX-1 Interface Board	1 each	\$354



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Item	Description	U/M	Price
5.0	6 GHz, 1 x OC3, Monitored Hot-Standby Microwave Terminal.	1 each	\$26,625
	In addition, the offeror shall provide pricing for all DS1 channel capacities described in Paragraph 3.2.1 and with protection configurations described in Paragraph 2.7.2.		
	MANUFACTURER: Tadiran Microwave Networks		
	MODEL NUMBER: 06CHSSNM		
	64. OC3 Multimode Radio Terminals		
	06CNSSNM CM6, NP, Std. Power, OC3 Multimode	1 each	\$16,480
	06CNHSNM CM6, NP, High Power, OC3 Multimode	1 each	\$17,180
	06CNDSNM CM6, NP, DHP, OC3 Multimode	1 each	\$17,880
	06CMSSNM CM6, NP/SD, Std. Power, OC3 Multimode	1 each	\$23,655
	06CMHSNM CM6, NP/SD, Hi Power, OC3 Multimode	1 each	\$24,395
	06CMDSNM CM6, NP/SD, DHP, OC-3 Multi-mode	1 each	\$25,989
	06CHHSNM CM6, MHSB, Hi Power, OC3 Multimode	1 each	\$27,875
	06CHDSNM CM6, MHSB, DHP, OC3 Multimode	1 each	\$30,230
	06CSSSNM CM6, HS/SD, Std. Power, OC3 Multimode	1 each	\$26,625
	06CSHSNM CM6, HS/SD, Hi Power, OC3 Multimode	1 each	\$27,875
	06CSDSNM CM6, HS/SD, DHP, OC-3 Multi-mode	1 each	\$30,230
	65. STS-3 Radio Terminals		
	06CNSSNE CM6, NP, Std. Power, STS-3	1 each	\$16,480
	06CNHSNE CM6, NP, High Power, STS-3	1 each	\$17,180
	06CNDSNE CM6, NP, DHP, STS-3	1 each	\$17,880
	06CMSSNE CM6, NP/SD, Std. Power, STS-3	1 each	\$23,655
	06CMHSNE CM6, NP/SD, High Power, STS-3	1 each	\$24,395
	06CMDSNE CM6, NP/SD, DHP, STS-3	1 each	\$25,989
	06CHSSNE CM6, MHSB, Std. Power, STS-3	1 each	\$26,625
	06CHHSNE CM6, MHSB, High Power, STS-3	1 each	\$27,875
	06CHDSNE CM6, MHSB, DHP, STS-3	1 each	\$30,230
	06CSSSNE CM6, HS/SD, Std. Power, STS-3	1 each	\$26,625
	06CSHSNE CM6, HS/SD, High Power, STS-3	1 each	\$27,875
	06CSDSNE CM6, HS/SD, DHP, STS-3	1 each	\$30,230
	66.		
	67. OC3 Singlemode Radio Terminals		
	06CNSSNS CM6, NP, Std. Power, OC3 Singlemode	1 each	\$16,480
	06CNHSNS CM6, NP, High Power, OC3 Singlemode	1 each	\$17,180
	06CNDSNS CM6, NP, DHP, OC3 Singlemode	1 each	\$17,880
	06CMSSNS CM6, NP/SD, Std Power OC3 Singlemode	1 each	\$23,655



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	06CMHSNS	CM6, NP/SD, Hi Power, OC3 Singlemode	1 each	\$24,395
	06CMDSNS	CM6, NP/SD, DHP, OC3 Singlemode	1 each	\$25,989
	06CHSSNS	CM6, MHSB, Std Power OC3 Singlemode	1 each	\$26,625
	06CHHSNS	CM6, MHSB, Hi Power, OC3 Singlemode	1 each	\$27,875
	06CHDSNS	CM6, MHSB, DHP, OC3 Singlemode	1 each	\$30,230
	06CSSSNS	CM6, HS/SD, Std Power OC3 Singlemode	1 each	\$26,625
	06CSHSNS	CM6, HS/SD, Hi Power, OC3 Singlemode	1 each	\$27,875
	06CSDSNS	CM6, HS/SD, DHP, OC3 Singlemode	1 each	\$30,230
	68. 100BaseT+DS3 Radio Terminals			
	06CNS1BT	CM6, NP, Std. Power, 100BaseT+DS3	1 each	\$16,480
	06CNH1BT	CM6, NP, Hi Power, 100BaseT+DS3	1 each	\$17,180
	06CND1BT	CM6, NP, DHP, 100BaseT+DS3	1 each	\$17,880
	06CMS1BT	CM6, NP/SD, Std. Power, 100BaseT+DS3	1 each	\$23,655
	06CMH1BT	CM6, NP/SD, Hi Power, 100BaseT+DS3	1 each	\$24,395
	06CMD1BT	CM6, NP/SD, DHP, 100BaseT+DS3	1 each	\$25,989
	06CHS1BT	CM6, MHSB, Std. Power, 100BaseT+DS3	1 each	\$26,625
	06CHH1BT	CM6, MHSB, Hi Power, 100BaseT+DS3	1 each	\$27,875
	06CHD1BT	CM6, MHSB, DHP, 100BaseT+DS3	1 each	\$30,230
	06CSS1BT	CM6, HS/SD, Std. Power, 100BaseT+DS3	1 each	\$26,625
	06CSH1BT	CM6, HS/SD, Hi Power, 100BaseT+DS3	1 each	\$27,875
	06CSD1BT	CM6, HS/SD, DHP, 100BaseT+DS3	1 each	\$30,230
	69. Rack Mounting Options			
	MLN7071A	7.0' x 19" Rack	1 each	\$320
	MLN7072A	7.5' x 19" Rack	1 each	\$380
	MLN7073A	8.0' x 19" Rack	1 each	\$600
	70. Radio Options			
	IHTR1AFTB1	Trimm Fuse/Terminal Block Panel	1 each	\$410
	MLN7876B	Service Channel Unit (for redundancy)	1 each	\$368
	IHDSA196814600	External Speaker/Amplifier for Orderwire	1 each	\$292
	8708192-00	Status & Control Extender Kit	1 each	\$1,031
	8708191-00	TeleScan Network Management Unit Kit	1 each	\$578
	8708231-00	SNMP Network Management Unit Kit	1 each	\$578
	MLN7330A	Wayside Traffic Unit	1 each	\$420
	MLN8003A	Palmtop Maintenance Terminal	1 each	\$672
	71. Waveguide Extension Options			
	MLH8073A	W/G Ext. for Lower Radio, NP or MHSB	1 each	\$366
	MLH8074A	W/G Ext. for Lower Radio, SD	1 each	\$732
	9900103-00	24" Flex Waveguide Jumper	1 each	\$275



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72.			
73.	Upgrade Kits to Increase Channel Capacity		
74.	<i>Non-Protected Radio Terminals</i>		
	4, 8, or 12DS1 to OC3 Multimode Capacity Upgrade	1 each	\$6,766
	4, 8, or 12DS1 to OC3 Singlemode Capacity Upgrade	1 each	\$6,863
	4, 8, or 12DS1 to STS-3 Electrical Capacity Upgrade	1 each	\$6,155
	DS3 or 28DS1 to OC3 Multimode Capacity Upgrade	1 each	\$6,479
	DS3 or 28DS1 to OC3 Singlemode Capacity Upgrade	1 each	\$6,863
	DS3 or 28DS1 to STS-3 Electrical Capacity Upgrade	1 each	\$6,155
	3DS3 to OC3 Multimode Capacity Upgrade	1 each	\$6,479
	3DS3 to OC3 Singlemode Capacity Upgrade	1 each	\$6,863
	3DS3 to STS-3 Electrical Capacity Upgrade	1 each	\$6,155
75.			
76.	Upgrade Kits to Increase Channel Capacity		
77.	<i>Protected & Space Diversity Radio Terminals</i>		
	4, 8, or 12DS1 to OC3 Multimode Capacity Upgrade	1 each	\$13,907
	4, 8, or 12DS1 to OC3 Singlemode Capacity Upgrade	1 each	\$14,027
	4, 8, or 12DS1 to STS-3 Electrical Capacity Upgrade	1 each	\$12,583
	DS3 or 28DS1 to OC3 Multimode Capacity Upgrade	1 each	\$13,930
	DS3 or 28DS1 to OC3 Singlemode Capacity Upgrade	1 each	\$14,052
	DS3 or 28DS1 to STS-3 Electrical Capacity Upgrade	1 each	\$13,606
	3DS3 to OC3 Multimode Capacity Upgrade	1 each	\$13,930
	3DS3 to OC3 Singlemode Capacity Upgrade	1 each	\$14,052
	3DS3 to STS-3 Electrical Capacity Upgrade	1 each	\$13,606
78.			
79.	Upgrade Kits for Protection Configuration		
80.	<i>Non-Protected to 1+1 Protection</i>		
	OC3 Multimode Non-Protected (NN) to Hot-Standby (HH)		
	Standard Power	1 each	\$19,858



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	High Power	1 each	\$20,542
	DHP	1 each	\$20,884
	OC3 Singlemode Non-Protected (NN) to Hot-Standby (HH)		
	Standard Power	1 each	\$19,960
	High Power	1 each	\$20,644
	DHP	1 each	\$20,986
	STS-3 Electrical Non-Protected (NN) to Hot-Standby (HH)		
	Standard Power	1 each	\$19,582
	High Power	1 each	\$20,257
	DHP	1 each	\$20,594
	81. Upgrade Kits for Protection Configuration		
	82. Non-Protected to 1+1 Space Diversity Protection		
	OC3 Multimode Non-Protected (NN) to Space Diversity (HS)		
	Standard Power	1 each	\$20,315
	High Power	1 each	\$20,999
	DHP	1 each	\$21,341
	OC3 Singlemode Non-Protected (NN) to Space Diversity(HS)		
	Standard Power	1 each	\$20,417
	High Power	1 each	\$21,101
	DHP	1 each	\$21,443
	STS-3 Electrical Non-Protected (NN) to Space Diversity (HS)		
	Standard Power	1 each	\$20,033
	High Power	1 each	\$20,707
	DHP	1 each	\$21,044
	83. Upgrade Kits for Protection Configuration		
	84. 1+1 Protected to 1+1 Space Diversity Protection		
	All Data Rates, All Power Options	1 each	\$1,009
	Marconi Sonet Mux Configurations		
	Marconi OC3 Mux (3DS3s Protected)	1 each	\$12,674
	DS800101/6 MAS STD Shelf	1	Included
	DS800307/2 NMCU (Network Monitor & Control Card)	1	Included
	DS800310/4SC OC3 OAU-IR 1310nm Laser Optics Card	2	Included
	DS800330/3 DS3M (1DS3 Mapper DSX)	4	Included
	DS800685/9.4 NE S/W v5.99 (OC12 S/W for NMCU)	1	Included



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	DS800110	Fiber Management Spool Kit	1	Included
	DS800111	Cable Guide Cover for STD 19" Rack (2)	1	Included
	<i>Marconi OC3 Mux (2DS3s & 28DS1s Protected)</i>		1 each	\$25,217
	DS800108/6	MAS XTD Shelf	1	Included
	DS800307/2	NMCU (Network Monitor & Control Card)	1	Included
	DS800310/4SC	OC3 OAU-IR 1310nm Laser Optics Card	2	Included
	DS800362	BIU-155 (MAS-XTD Buffer Card)	2	Included
	DS800330/3	DS3M (1DS3 Mapper DSX)	3	Included
	DS800334	DSSR4PM+ (4DS1 Mapper DSX)	8	Included
	DS800350/2	PSCU-28 (28DS1 Protection Switch Unit)	1	Included
	DS800685/9.4	NE S/W v5.99 (OC12 S/W for NMCU)	1	Included
	DS800110	Fiber Management Spool Kit	1	Included
	DS800113	Cable Guide Cover for XTD 19" Rack (2)	1	Included
	<i>Marconi OC3 Mux (1DS3 & 56DS1s Protected)</i>		1 each	\$34,277
	DS800108/6	MAS XTD Shelf	1	Included
	DS800307/2	NMCU (Network Monitor & Control Card)	1	Included
	DS800310/4SC	OC3 OAU-IR 1310nm Laser Optics Card	2	Included
	DS800362	BIU-155 (MAS-XTD Buffer Card)	2	Included
	DS800330/3	DS3M (1DS3 Mapper DSX)	2	Included
	DS800334	DSSR4PM+ (4DS1 Mapper DSX)	15	Included
	DS800350/2	PSCU-28 (28DS1 Protection Switch Unit)	2	Included
	DS800685/9.4	NE S/W v5.99 (OC12 S/W for NMCU)	1	Included
	DS800110	Fiber Management Spool Kit	1	Included
	DS800113	Cable Guide Cover for XTD 19" Rack (2)	1	Included
	<i>Marconi OC3 Mux (84DS1s Protected)</i>		1 each	\$43,882
	DS800108/6	MAS XTD Shelf	1	Included
	DS800307/2	NMCU (Network Monitor & Control Card)	1	Included
	DS800310/4SC	OC3 OAU-IR 1310nm Laser Optics Card	2	Included
	DS800362	BIU-155 (MAS-XTD Buffer Card)	2	Included
	DS800334	DSSR4PM+ (4DS1 Mapper DSX)	23	Included
	DS800350/2	PSCU-28 (28DS1 Protection Switch Unit)	3	Included
	DS800685/9.4	NE S/W v5.99 (OC12 S/W for NMCU)	1	Included
	DS800110	Fiber Management Spool Kit	1	Included
	DS800113	Cable Guide Cover for XTD 19" Rack (2)	1	Included
	<i>Required for the network:</i>			
	DS800602 CD	Overview 1500 Management Software	1 each	\$7,182
	DS800940	Document Library - CDROM	1 each	NC
	Order Wire Option(Protected)		1 each	N/A
	Order Wire Option(Non-Protected)		1 each	\$420
	Recommended Spare Parts Option			
	85. RF Spares			



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	MPN8187A	RF Power Supply	1 each	\$560
	MTH-6TXSP	Transmitter Module, Std. Power	1 each	\$3,112
	MTH-6TXHP	Transmitter Module, High Power	1 each	\$3,912
	MTH-6TXDHP	Transmitter Module, DHP	1 each	\$4,312
	MRH-6RX	Receiver Module	1 each	\$2,748
	86. SP Spares			
	MPN6050B	Signal Processing Power Supply	1 each	\$480
	MLN7195E	Alarm and Control Unit	1 each	\$560
	MLN1532A	Network Management Unit	1 each	\$473
	MLN7876B	Service Channel Unit	1 each	\$368
	MLN7201A	Orderwire Unit	1 each	\$420
	MLN1467A	Status and Control Extender	1 each	\$1,031
	MLN7330A	Wayside Traffic Unit	1 each	\$420
	8000516-01	Syndes (OC3 Multimode)	1 each	\$3,143
	8000516-02	Syndes (STS-3)	1 each	\$3,143
	8000516-03	Syndes (OC3 Singlemode)	1 each	\$3,188
	8000542-00	Syndes (100BaseT+DS3)	1 each	\$3,188
	8000514-00	Modulator (155 Mbps)	1 each	\$1,129
	8000515-00	Demodulator (155 Mbps)	1 each	\$2,275
	8000513-00	Mux (155 Mbps)	1 each	\$1,199
	Marconi Sonet Mux Spares			
	DS800101/6	MAS STD Shelf	1 each	\$1,463
	DS800108/6	MAS XTD Shelf	1 each	\$2,780
	DS800307/2	NMCU (Network Monitor & Control Card)	1 each	\$1,722
	DS800310/4SC	OC3 OAU-IR 1310nm Laser Optics Card	1 each	\$3,061
	DS800362	BIU-155 (MAS-XTD Buffer Card)	1 each	\$399
	DS800330/3	DS3M (1DS3 Mapper DSX)	1 each	\$798
	DS800334	DSSR4PM+ (4DS1 Mapper DSX)	1 each	\$1,343
	DS800350/2	PSCU-28 (28DS1 Protection Switch Unit)	1 each	\$462
	DS800685/9.4	NE S/W v5.99 (OC12 S/W for NMCU)	1 each	NC
	DS800110	Fiber Management Spool Kit	1 each	\$110
	DS800111	Cable Guide Cover for STD 19" Rack (2)	1 each	\$70
	DS800113	Cable Guide Cover for XTD 19" Rack (2)	1 each	\$96



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Item	Description	U/M	Price
6.0	11GHz, 1 x OC3, Monitored Hot-Standby Microwave Terminal	1 each	\$28,485
	In addition, the offeror shall provide pricing for all DS1 channel capacities described in Paragraph 4.2.1 and with protection configurations described in Paragraph 2.7.2.		
	MANUFACTURER: Tadiran Microwave Networks		
	MODEL NUMBER: 11CHSSNM		
	87. OC3 Multimode Radio Terminals		
	11CNSSNM CM11, NP, Std. Power, OC3 Multimode	1 each	\$17,700
	11CNHSNM CM11, NP, High Power, OC3 Multimode	1 each	\$18,450
	11CMSSNM CM11, NP/SD, Std. Power, OC3 Multimode	1 each	\$25,069
	11CMHSNM CM11, NP/SD, Hi Power, OC3 Multimode	1 each	\$25,839
	11CHHSNM CM11, MHSB, Hi Power, OC3 Multimode	1 each	\$29,835
	11CSSSNM CM11, HS/SD, Std. Power, OC3 Multimode	1 each	\$28,485
	11CSHSNM CM11, HS/SD, Hi Power, OC3 Multimode	1 each	\$29,835
	88. STS-3 Radio Terminals		
	11CNSSNE CM11 NP, Std. Power, STS-3	1 each	\$17,700
	11CNHSNE CM11, NP, High Power, STS-3	1 each	\$18,450
	11CMSSNE CM11, NP/SD, Std. Power, STS-3	1 each	\$25,069
	11CMHSNE CM11, NP/SD, High Power, STS-3	1 each	\$25,839
	11CHSSNE CM11, MHSB, Std. Power, STS-3	1 each	\$28,485
	11CHHSNE CM11, MHSB, High Power, STS-3	1 each	\$29,835
	11CSSSNE CM11, HS/SD, Std. Power, STS-3	1 each	\$28,485
	11CSHSNE CM11, HS/SD, High Power, STS-3	1 each	\$29,835
	89.		
	90. OC3 Singlemode Radio Terminals		
	11CNSSNS CM11, NP, Std. Power, OC3 Singlemode	1 each	\$17,700
	11CNHSNS CM11, NP, High Power, OC3 Singlemode	1 each	\$18,450
	11CMSSNS CM11, NP/SD, Std Power OC3 Singlemode	1 each	\$25,069
	11CMHSNS CM11, NP/SD, Hi Power, OC3 Singlemode	1 each	\$25,839
	11CHSSNS CM11, MHSB, Std Power OC3 Singlemode	1 each	\$28,485
	11CHHSNS CM11, MHSB, Hi Power, OC3 Singlemode	1 each	\$29,835
	11CSSSNS CM11, HS/SD, Std Power OC3 Singlemode	1 each	\$28,485
	11CSHSNS CM11, HS/SD, Hi Power, OC3 Singlemode	1 each	\$29,835
	91. 100BaseT+DS3 Radio Terminals		
	11CNS1BT CM11, NP, Std. Power, 100BaseT+DS3	1 each	\$17,360



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	11CNH1BT	CM11, NP, Hi Power, 100BaseT+DS3	1 each	\$18,135
	11CMS1BT	CM11, NP/SD, Std. Power, 100BaseT+DS3	1 each	\$25,598
	11CMH1BT	CM11, NP/SD, Hi Power, 100BaseT+DS3	1 each	\$26,426
	11CHS1BT	CM11, MHSB, Std. Power, 100BaseT+DS3	1 each	\$28,140
	11CHH1BT	CM11, MHSB, Hi Power, 100BaseT+DS3	1 each	\$29,540
	11CSS1BT	CM11, HS/SD, Std. Power, 100BaseT+DS3	1 each	\$28,140
	11CSH1BT	CM11, HS/SD, Hi Power, 100BaseT+DS3	1 each	\$29,540
	92. Rack Mounting Options			
	MLN7071A	7.0' x 19" Rack	1 each	\$320
	MLN7072A	7.5' x 19" Rack	1 each	\$380
	MLN7073A	8.0' x 19" Rack	1 each	\$600
	93. Radio Options			
	IHTR1AFTB1	Trimm Fuse/Terminal Block Panel	1 each	\$410
	MLN7876B	Service Channel Unit (for redundancy)	1 each	\$368
	IHDSA196814600	External Speaker/Amplifier for Orderwire	1 each	\$292
	8708192-00	Status & Control Extender Kit	1 each	\$1,031
	8708191-00	TeleScan Network Management Unit Kit	1 each	\$578
	8708231-00	SNMP Network Management Unit Kit	1 each	\$578
	MLN7330A	Wayside Traffic Unit	1 each	\$420
	MLN8003A	Palmtop Maintenance Terminal	1 each	\$672
	94. Waveguide Extension Options			
	MLH8073A	W/G Ext. for Lower Radio, NP or MHSB	1 each	\$372
	MLH8074A	W/G Ext. for Lower Radio, SD	1 each	\$745
	9520198A00	24" Flex Waveguide Jumper (11 GHz)	1 each	\$350
	95.			
	96. Upgrade Kits to Increase Channel Capacity			
	97. Non-Protected Radio Terminals			
	4, 8, or 12DS1 to OC3 Multimode Capacity Upgrade		1 each	\$6,766
	4, 8, or 12DS1 to OC3 Singlemode Capacity Upgrade		1 each	\$6,863
	4, 8, or 12DS1 to STS-3 Electrical Capacity Upgrade		1 each	\$6,155
	DS3 or 28DS1 to OC3 Multimode Capacity Upgrade		1 each	\$6,479
	DS3 or 28DS1 to OC3 Singlemode Capacity Upgrade		1 each	\$6,863
	DS3 or 28DS1 to STS-3 Electrical Capacity Upgrade		1 each	\$6,155
	3DS3 to OC3 Multimode Capacity Upgrade		1 each	\$6,479



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	3DS3 to OC3 Singlemode Capacity Upgrade	1 each	\$6,863
	3DS3 to STS-3 Electrical Capacity Upgrade	1 each	\$6,155
	98.		
	99. Upgrade Kits to Increase Channel Capacity		
	100. Protected & Space Diversity Radio Terminals		
	4, 8, or 12DS1 to OC3 Multimode Capacity Upgrade	1 each	\$13,907
	4, 8, or 12DS1 to OC3 Singlemode Capacity Upgrade	1 each	\$14,027
	4, 8, or 12DS1 to STS-3 Electrical Capacity Upgrade	1 each	\$12,583
	DS3 or 28DS1 to OC3 Multimode Capacity Upgrade	1 each	\$13,930
	DS3 or 28DS1 to OC3 Singlemode Capacity Upgrade	1 each	\$14,052
	DS3 or 28DS1 to STS-3 Electrical Capacity Upgrade	1 each	\$13,606
	3DS3 to OC3 Multimode Capacity Upgrade	1 each	\$13,930
	3DS3 to OC3 Singlemode Capacity Upgrade	1 each	\$14,052
	3DS3 to STS-3 Electrical Capacity Upgrade	1 each	\$13,606
	101.		
	102. Upgrade Kits for Protection Configuration		
	103. Non-Protected to 1+1 Protection		
	OC3 Multimode Non-Protected (NN) to Hot-Standby (HH)		
	Standard Power	1 each	\$19,984
	High Power	1 each	\$21,010
	OC3 Singlemode Non-Protected (NN) to Hot-Standby (HH)		
	Standard Power	1 each	\$20,086
	High Power	1 each	\$21,112
	STS-3 Electrical Non-Protected (NN) to Hot-Standby (HH)		
	Standard Power	1 each	\$19,706
	High Power	1 each	\$20,718
	104. Upgrade Kits for Protection Configuration		
	105. Non-Protected to 1+1 Space Diversity Protection		



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	OC3 Multimode Non-Protected (NN) to Space Diversity (HS)		
	Standard Power	1 each	\$19,939
	High Power	1 each	\$20,965
	OC3 Singlemode Non-Protected (NN) to Space Diversity(HS)		
	Standard Power	1 each	\$20,041
	High Power	1 each	\$21,067
	STS-3 Electrical Non-Protected (NN) to Space Diversity (HS)		
	Standard Power	1 each	\$19,667
	High Power	1 each	\$20,673
	106. Upgrade Kits for Protection Configuration		
	107. 1+1 Protected to 1+1 Space Diversity Protection		
	All Data Rates, All Power Options	1 each	\$919
	Marconi Sonet Mux Configurations		
	<i>Marconi OC3 Mux (3DS3s Protected)</i>	1 each	\$12,674
	DS800101/6 MAS STD Shelf	1	Included
	DS800307/2 NMCU (Network Monitor & Control Card)	1	Included
	DS800310/4SC OC3 OAU-IR 1310nm Laser Optics Card	2	Included
	DS800330/3 DS3M (1DS3 Mapper DSX)	4	Included
	DS800685/9.4 NE S/W v5.99 (OC12 S/W for NMCU)	1	Included
	DS800110 Fiber Management Spool Kit	1	Included
	DS800111 Cable Guide Cover for STD 19" Rack (2)	1	Included
	<i>Marconi OC3 Mux (2DS3s & 28DS1s Protected)</i>	1 each	\$25,217
	DS800108/6 MAS XTD Shelf	1	Included
	DS800307/2 NMCU (Network Monitor & Control Card)	1	Included
	DS800310/4SC OC3 OAU-IR 1310nm Laser Optics Card	2	Included
	DS800362 BIU-155 (MAS-XTD Buffer Card)	2	Included
	DS800330/3 DS3M (1DS3 Mapper DSX)	3	Included
	DS800334 DSSR4PM+ (4DS1 Mapper DSX)	8	Included
	DS800350/2 PSCU-28 (28DS1 Protection Switch Unit)	1	Included
	DS800685/9.4 NE S/W v5.99 (OC12 S/W for NMCU)	1	Included
	DS800110 Fiber Management Spool Kit	1	Included
	DS800113 Cable Guide Cover for XTD 19" Rack (2)	1	Included
	<i>Marconi OC3 Mux (1DS3 & 56DS1s Protected)</i>	1 each	\$34,277
	DS800108/6 MAS XTD Shelf	1	Included
	DS800307/2 NMCU (Network Monitor & Control Card)	1	Included
	DS800310/4SC OC3 OAU-IR 1310nm Laser Optics Card	2	Included
	DS800362 BIU-155 (MAS-XTD Buffer Card)	2	Included
	DS800330/3 DS3M (1DS3 Mapper DSX)	2	Included
	DS800334 DSSR4PM+ (4DS1 Mapper DSX)	15	Included



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	DS800350/2	PSCU-28 (28DS1 Protection Switch Unit)	2	Included
	DS800685/9.4	NE S/W v5.99 (OC12 S/W for NMCU)	1	Included
	DS800110	Fiber Management Spool Kit	1	Included
	DS800113	Cable Guide Cover for XTD 19" Rack (2)	1	Included
		<i>Marconi OC3 Mux (84DS1s Protected)</i>	1 each	\$43,882
	DS800108/6	MAS XTD Shelf	1	Included
	DS800307/2	NMCU (Network Monitor & Control Card)	1	Included
	DS800310/4SC	OC3 OAU-IR 1310nm Laser Optics Card	2	Included
	DS800362	BIU-155 (MAS-XTD Buffer Card)	2	Included
	DS800334	DSSR4PM+ (4DS1 Mapper DSX)	23	Included
	DS800350/2	PSCU-28 (28DS1 Protection Switch Unit)	3	Included
	DS800685/9.4	NE S/W v5.99 (OC12 S/W for NMCU)	1	Included
	DS800110	Fiber Management Spool Kit	1	Included
	DS800113	Cable Guide Cover for XTD 19" Rack (2)	1	Included
		<i>Required for the network:</i>		
	DS800602 CD	Overview 1500 Management Software	1 each	\$7,182
	DS800940	Document Library - CDROM	1 each	NC
		Order Wire Option(Protected)	1 each	N/A
		Order Wire Option(Non-Protected)	1 each	\$420
		Recommended Spare Parts Option		
		108. RF Spares		
	MPN8187A	RF Power Supply	1 each	\$560
	MTH-11TXSP	Transmitter Module, Std. Power	1 each	\$3,968
	MTH-11TXHP	Transmitter Module, High Power	1 each	\$4,635
	MRH-11RX	Receiver Module (10.70-10.87 GHz)	1 each	\$3,140
		109. SP Spares		
	MPN6050B	Signal Processing Power Supply	1 each	\$480
	MLN7195E	Alarm and Control Unit	1 each	\$560
	MLN1532A	Network Management Unit	1 each	\$473
	MLN7876B	Service Channel Unit	1 each	\$368
	MLN7201A	Orderwire Unit	1 each	\$420
	MLN1467A	Status and Control Extender	1 each	\$1,031
	MLN7330A	Wayside Traffic Unit	1 each	\$420
	8000516-01	Syndes (OC3 Multimode)	1 each	\$3,143
	8000516-02	Syndes (STS-3)	1 each	\$3,143
	8000516-03	Syndes (OC3 Singlemode)	1 each	\$3,188
	8000542-00	Syndes (100BaseT+DS3)	1 each	\$3,188
	8000514-00	Modulator (155 Mbps)	1 each	\$1,129
	8000515-00	Demodulator (155 Mbps)	1 each	\$2,275



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8000513-00	Mux (155 Mbps)	1 each	\$1,199
Marconi Sonet Mux Spares			
DS800101/6	MAS STD Shelf	1 each	\$1,463
DS800108/6	MAS XTD Shelf	1 each	\$2,780
DS800307/2	NMCU (Network Monitor & Control Card)	1 each	\$1,722
DS800310/4SC	OC3 OAU-IR 1310nm Laser Optics Card	1 each	\$3,061
DS800362	BIU-155 (MAS-XTD Buffer Card)	1 each	\$399
DS800330/3	DS3M (1DS3 Mapper DSX)	1 each	\$798
DS800334	DSSR4PM+ (4DS1 Mapper DSX)	1 each	\$1,343
DS800350/2	PSCU-28 (28DS1 Protection Switch Unit)	1 each	\$462
DS800685/9.4	NE S/W v5.99 (OC12 S/W for NMCU)	1 each	NC
DS800110	Fiber Management Spool Kit	1 each	\$110
DS800111	Cable Guide Cover for STD 19" Rack (2)	1 each	\$70
DS800113	Cable Guide Cover for XTD 19" Rack (2)	1 each	\$96

Item	Description	U/M	Price
7.0	18GHz, 1 x OC3, Monitored Hot-Standby Microwave Terminal	1 each	\$35,142
	In addition, the offeror shall provide pricing for all DS1 channel capacities described in Paragraph 5.2.1 and with protection configurations described in Paragraph 2.7.2.		
	MANUFACTURER: Tadiran Microwave Networks		
	MODEL NUMBER:		
	110. 18 GHz Radios		
	Pinnacle 155 Mbps Radio, 18 GHz. Non-Protected, Std Power	1 each	\$15,941
	Pinnacle 155 Mbps Radio, 18 GHz, Hot Standby (Two Antennas), Std. Power	1 each	\$33,555
	111. Radio Option		
	Power Supply (Must select one)		NC
	Power Supply, -30 to -72 VDC Input	1 each	NC
	Power Supply, 90 to 240 VAC Input	1 each	\$164
	I/O Module (Must select one)		
	Optical, Multi-Mode, Short Haul I/O Module, SC Connector, 1300mm	1 each	NC
	Optical, Multi-Mode, Long Haul I/O Module, FCPC Connector, 1300mm	1 each	\$589
	Optical, Multi-Mode, Long Haul I/O Module, SC Connector, 1300mm	1 each	\$589
	Electrical I/O Module, 2 x BNC, G.703	1 each	NC
	Service Channel (More than one may be selected)		
	64 Kbps G.703 clear channel	1 each	\$123



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112. 18 GHz Antennas

2 Ft. Antenna, 18 GHz

1 each

\$875

3 Ft. Antenna, 18 GHz

1 each

\$1,120

4 Ft. Antenna, 18 GHz

1 each

\$1,883

113. IDU-ODU Cable

IDU to ODU Cable (per foot)

1 each

\$1

Type "N" Connector for IDU to ODU Cable (2 req'd per run)

1 each

\$20

Marconi Sonet Mux Configurations

Marconi OC3 Mux (3DS3s Protected)

1 each

\$12,674

DS800101/6 MAS STD Shelf

1

Included

DS800307/2 NMCU (Network Monitor & Control Card)

1

Included

DS800310/4SC OC3 OAU-IR 1310nm Laser Optics Card

2

Included

DS800330/3 DS3M (1DS3 Mapper DSX)

4

Included

DS800685/9.4 NE S/W v5.99 (OC12 S/W for NMCU)

1

Included

DS800110 Fiber Management Spool Kit

1

Included

DS800111 Cable Guide Cover for STD 19" Rack (2)

1

Included

Marconi OC3 Mux (2DS3s & 28DS1s Protected)

1 each

\$25,217

DS800108/6 MAS XTD Shelf

1

Included

DS800307/2 NMCU (Network Monitor & Control Card)

1

Included

DS800310/4SC OC3 OAU-IR 1310nm Laser Optics Card

2

Included

DS800362 BIU-155 (MAS-XTD Buffer Card)

2

Included

DS800330/3 DS3M (1DS3 Mapper DSX)

3

Included

DS800334 DSSR4PM+ (4DS1 Mapper DSX)

8

Included

DS800350/2 PSCU-28 (28DS1 Protection Switch Unit)

1

Included

DS800685/9.4 NE S/W v5.99 (OC12 S/W for NMCU)

1

Included

DS800110 Fiber Management Spool Kit

1

Included

DS800113 Cable Guide Cover for XTD 19" Rack (2)

1

Included

Marconi OC3 Mux (1DS3 & 56DS1s Protected)

1 each

\$34,277

DS800108/6 MAS XTD Shelf

1

Included

DS800307/2 NMCU (Network Monitor & Control Card)

1

Included

DS800310/4SC OC3 OAU-IR 1310nm Laser Optics Card

2

Included

DS800362 BIU-155 (MAS-XTD Buffer Card)

2

Included

DS800330/3 DS3M (1DS3 Mapper DSX)

2

Included

DS800334 DSSR4PM+ (4DS1 Mapper DSX)

15

Included

DS800350/2 PSCU-28 (28DS1 Protection Switch Unit)

2

Included

DS800685/9.4 NE S/W v5.99 (OC12 S/W for NMCU)

1

Included

DS800110 Fiber Management Spool Kit

1

Included

DS800113 Cable Guide Cover for XTD 19" Rack (2)

1

Included

Marconi OC3 Mux (84DS1s Protected)

1 each

\$43,882

DS800108/6 MAS XTD Shelf

1

Included



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	DS800307/2	NMCU (Network Monitor & Control Card)	1	Included
	DS800310/4SC	OC3 OAU-IR 1310nm Laser Optics Card	2	Included
	DS800362	BIU-155 (MAS-XTD Buffer Card)	2	Included
	DS800334	DSSR4PM+ (4DS1 Mapper DSX)	23	Included
	DS800350/2	PSCU-28 (28DS1 Protection Switch Unit)	3	Included
	DS800685/9.4	NE S/W v5.99 (OC12 S/W for NMCU)	1	Included
	DS800110	Fiber Management Spool Kit	1	Included
	DS800113	Cable Guide Cover for XTD 19" Rack (2)	1	Included
	<i>Required for the network:</i>			
	DS800602 CD	Overview 1500 Management Software	1 each	\$7,182
	DS800940	Document Library - CDROM	1 each	NC
	Order Wire Option(Protected)			
	Order Wire Option(Non-Protected)			
	Recommended Spare Parts Option			
	Optical, Multi-Mode, Short Haul I/O Module, SC Connector, 1300mm		1 each	\$695
	Optical, Multi-Mode, Long Haul I/O Module, FCPC Connector, 1300mm		1 each	\$1,226
	Optical, Multi-Mode, Long Haul I/O Module, SC Connector, 1300mm		1 each	\$1,226
	Electrical I/O Module, 2 x BNC, G.703		1 each	\$695
	155 Mbps IDU		1 each	\$9,889
	HSB Switching Shelf		1 each	\$2,779
	18 GHz ODU		1 each	\$10,581
	18 GHz HSB ODU Kit		1 each	\$1,962
	Marconi Sonet Mux Spares			
	DS800101/6	MAS STD Shelf	1 each	\$1,463
	DS800108/6	MAS XTD Shelf	1 each	\$2,780
	DS800307/2	NMCU (Network Monitor & Control Card)	1 each	\$1,722
	DS800310/4SC	OC3 OAU-IR 1310nm Laser Optics Card	1 each	\$3,061
	DS800362	BIU-155 (MAS-XTD Buffer Card)	1 each	\$399
	DS800330/3	DS3M (1DS3 Mapper DSX)	1 each	\$798
	DS800334	DSSR4PM+ (4DS1 Mapper DSX)	1 each	\$1,343
	DS800350/2	PSCU-28 (28DS1 Protection Switch Unit)	1 each	\$462
	DS800685/9.4	NE S/W v5.99 (OC12 S/W for NMCU)	1 each	NC
	DS800110	Fiber Management Spool Kit	1 each	\$110
	DS800111	Cable Guide Cover for STD 19" Rack (2)	1 each	\$70
	DS800113	Cable Guide Cover for XTD 19" Rack (2)	1 each	\$96



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Item	Description	U/M	Price
8.0	23GHz, 1 x OC3, Monitored Hot-Standby Microwave Terminal	1 each	\$35,133
	In addition, the offeror shall provide pricing for all DS1 channel capacities described in Paragraph 6.2.1 and with protection configurations described in Paragraph 2.7.2.		
	MANUFACTURER: Tadiran Microwave Networks		
	MODEL NUMBER:		
	114. 28 GHz Radios		
	Pinnacle 155 Mbps Radio, 23 GHz, Non-Protected, Std Power	1 each	\$15,953
	Pinnacle 155 Mbps Radio, 23 GHz, Hot Standby (Two Antennas), Std. Power	1 each	\$33,540
	115. Radio Option		
	Power Supply (Must select one)		NC
	Power Supply, -30 to -72 VDC Input	1 each	NC
	Power Supply, 90 to 240 VAC Input	1 each	\$164
	I/O Module (Must select one)		
	Optical, Multi-Mode, Short Haul I/O Module, SC Connector, 1300mm	1 each	NC
	Optical, Multi-Mode, Long Haul I/O Module, FCPC Connector, 1300mm	1 each	\$589
	Optical, Multi-Mode, Long Haul I/O Module, SC Connector, 1300mm	1 each	\$589
	Electrical I/O Module, 2 x BNC, G.703	1 each	NC
	Service Channel (More than one may be selected)		
	64 Kbps G.703 clear channel	1 each	\$123
	116. 23 GHz Antennas		
	2 Ft. Antenna, 23 GHz	1 each	\$875
	3 Ft. Antenna, 23 GHz	1 each	\$1,120
	4 Ft. Antenna, 23 GHz	1 each	\$1,883
	117. IDU-ODU Cable		
	IDU to ODU Cable (per foot)	1 each	\$1
	Type "N" Connector for IDU to ODU Cable (2 req'd per run)	1 each	\$20
	Marconi Sonet Mux Configurations		
	<i>Marconi OC3 Mux (3DS3s Protected)</i>	1 each	\$12,674
	DS800101/6 MAS STD Shelf	1	Included
	DS800307/2 NMCU (Network Monitor & Control Card)	1	Included
	DS800310/4SC OC3 OAU-IR 1310nm Laser Optics Card	2	Included
	DS800330/3 DS3M (1DS3 Mapper DSX)	4	Included



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	DS800685/9.4	NE S/W v5.99 (OC12 S/W for NMCU)	1	Included
	DS800110	Fiber Management Spool Kit	1	Included
	DS800111	Cable Guide Cover for STD 19" Rack (2)	1	Included
	<i>Marconi OC3 Mux (2DS3s & 28DS1s Protected)</i>		1 each	\$25,217
	DS800108/6	MAS XTD Shelf	1	Included
	DS800307/2	NMCU (Network Monitor & Control Card)	1	Included
	DS800310/4SC	OC3 OAU-IR 1310nm Laser Optics Card	2	Included
	DS800362	BIU-155 (MAS-XTD Buffer Card)	2	Included
	DS800330/3	DS3M (1DS3 Mapper DSX)	3	Included
	DS800334	DSSR4PM+ (4DS1 Mapper DSX)	8	Included
	DS800350/2	PSCU-28 (28DS1 Protection Switch Unit)	1	Included
	DS800685/9.4	NE S/W v5.99 (OC12 S/W for NMCU)	1	Included
	DS800110	Fiber Management Spool Kit	1	Included
	DS800113	Cable Guide Cover for XTD 19" Rack (2)	1	Included
	<i>Marconi OC3 Mux (1DS3 & 56DS1s Protected)</i>		1 each	\$34,277
	DS800108/6	MAS XTD Shelf	1	Included
	DS800307/2	NMCU (Network Monitor & Control Card)	1	Included
	DS800310/4SC	OC3 OAU-IR 1310nm Laser Optics Card	2	Included
	DS800362	BIU-155 (MAS-XTD Buffer Card)	2	Included
	DS800330/3	DS3M (1DS3 Mapper DSX)	2	Included
	DS800334	DSSR4PM+ (4DS1 Mapper DSX)	15	Included
	DS800350/2	PSCU-28 (28DS1 Protection Switch Unit)	2	Included
	DS800685/9.4	NE S/W v5.99 (OC12 S/W for NMCU)	1	Included
	DS800110	Fiber Management Spool Kit	1	Included
	DS800113	Cable Guide Cover for XTD 19" Rack (2)	1	Included
	<i>Marconi OC3 Mux (84DS1s Protected)</i>		1 each	\$43,882
	DS800108/6	MAS XTD Shelf	1	Included
	DS800307/2	NMCU (Network Monitor & Control Card)	1	Included
	DS800310/4SC	OC3 OAU-IR 1310nm Laser Optics Card	2	Included
	DS800362	BIU-155 (MAS-XTD Buffer Card)	2	Included
	DS800334	DSSR4PM+ (4DS1 Mapper DSX)	23	Included
	DS800350/2	PSCU-28 (28DS1 Protection Switch Unit)	3	Included
	DS800685/9.4	NE S/W v5.99 (OC12 S/W for NMCU)	1	Included
	DS800110	Fiber Management Spool Kit	1	Included
	DS800113	Cable Guide Cover for XTD 19" Rack (2)	1	Included
	<i>Required for the network:</i>			
	DS800602 CD	Overview 1500 Management Software	1 each	\$7,182
	DS800940	Document Library - CDROM	1 each	NC
	Order Wire Option(Protected)			
	Order Wire Option(Non-Protected)			



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Recommended Spare Parts Option			
Optical, Multi-Mode, Short Haul I/O Module, SC Connector, 1300mm		1 each	\$695
Optical, Multi-Mode, Long Haul I/O Module, FCPC Connector, 1300mm		1 each	\$1,226
Optical, Multi-Mode, Long Haul I/O Module, SC Connector, 1300mm		1 each	\$1,226
Electrical I/O Module, 2 x BNC, G.703		1 each	\$695
155 Mbps IDU		1 each	\$9,889
HSB Switching Shelf		1 each	\$2,779
23 GHz ODU		1 each	\$10,383
23 GHz HSB ODU Kit		1 each	\$1,962
Marconi Sonet Mux Spares			
DS800101/6 MAS STD Shelf		1 each	\$1,463
DS800108/6 MAS XTD Shelf		1 each	\$2,780
DS800307/2 NMCU (Network Monitor & Control Card)		1 each	\$1,722
DS800310/4SC OC3 OAU-IR 1310nm Laser Optics Card		1 each	\$3,061
DS800362 BIU-155 (MAS-XTD Buffer Card)		1 each	\$399
DS800330/3 DS3M (1DS3 Mapper DSX)		1 each	\$798
DS800334 DSSR4PM+ (4DS1 Mapper DSX)		1 each	\$1,343
DS800350/2 PSCU-28 (28DS1 Protection Switch Unit)		1 each	\$462
DS800685/9.4 NE S/W v5.99 (OC12 S/W for NMCU)		1 each	NC
DS800110 Fiber Management Spool Kit		1 each	\$110
DS800111 Cable Guide Cover for STD 19" Rack (2)		1 each	\$70
DS800113 Cable Guide Cover for XTD 19" Rack (2)		1 each	\$96

Item	Description	U/M	Price
	Channel Bank Equipment (List options & pricing)		
	1. Coastcom D/I Mux III		
91619-324	24-Slot Shelf (Universal)	1 each	\$1,492
	Common Equipment Modules		
40305-104	AMCU Card	1 each	\$1,595
30309-104	Line Interface Unit B	1 each	\$398
30309-114	Line Interface Unit A	1 each	\$398
30307-103	Upper Strobe Unit	1 each	\$375
30307-104	Strobe Generator Unit	1 each	\$208
30339-101	Blank Panel for Channel Slots	1 each	NC
30118-102	Dual Enhanced DSX-1 Interface – 750'	1 each	\$324
	4w E/M		
33245-103	Dual 4-wire E&M/PLR/Tandem Signaling	1 each	\$299
	2W FXO/FXS		
33242-104	Dual 2-wire FXS	1 each	\$364



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	33242-105	Dual 2-wire FXO	1 each	\$364
	Synchronous Data			
	30451-101	DSDCU 56/64 x N v.35/RS422/RS-232	1 each	\$562
	Asynchronous Data			
	30355-109	5 Ch Surate SDM-DDS RS-232	1 each	\$1,038
	30360-109	SDM Connector Shelf – 5xRS-232	1 each	\$225
	Video			
	33248-101	Video Encoder 64kbps to 1.544 Mbps	1 each	\$5,320
	33249-101	Video Decoder 64kbps to 1.544 Mbps	1 each	\$5,320
	Power Supply Modules			
	30338-102	Power Unit –48V DC	1 each	\$796
	30308-102	Power Unit 120V AC w/ 5 watt ringer	1 each	\$796
	30314-101	Power Unit –24V DC	1 each	\$796
	Misc. Modules			
	30350-101	RLB – Remote LAN Bridge	1 each	\$1,081
	30034-003	10 Watt External Ring Generator	1 each	\$417
	118. Telect Cross-Connects			
	DS01000004006	14 Module DSX-1 Cross-connect Chassis	1 each	\$187
	DS01071080001	4-port DSX-1 Module, RJ-48	1 each	\$245
	DS01040040000	4-port DSX-1 Module, Wirewrap	1 each	\$98
	DS0401000006	72" Bantam Patch Cable	1 each	\$20
	DS01000000701	DSX-3 Cross-connect Chassis 3 positions	1 each	\$88
	DS01090010413	DSX-3 Cross-connect, Mini-WECO, BNC	1 each	\$465
	DS0430122006	DSX-3 6' Patch-cord Mini-WECO	1 each	\$27
	DCS Equipment (List options & pricing)		1 each	
	119. Coastcom DXC DCS			
	38117-001	8-port Shelf	1 each	\$1,189
	38113-003	Master Control Board (MCB)	1 each	\$1,352
	38122-001	-48V DC Power Supply	1 each	\$1,470
	38112-003	Cross Connect Unit (XIU)	1 each	\$542



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120. Coastcom AIM (Advanced Intelligent Multiplexer)

41001-101	AIM Chassis	1 each	\$3,990
43710-101	AIM Central Controller	1 each	\$3,990
46410-101	DC Power Supply	1 each	\$1,064
43711-101	Quad T1 LIU	1 each	\$3,618
43717-101	T3 LIU	1 each	\$7,448



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Item	Description	U/M	Price
	Larus DS1 ring diversity switch option		
	IH5702L3 Larus Shelf, Holds up to 12 Circuit Packs (6DS1s)	1 each	\$880
	IH5702L1A Larus Circuit Pack	1 each	\$2,174
	IH5702L2A Larus 1 RU Shelf Kit e/w (2) Circuit Packs	1 each	\$1,072
	Training, at factory option up to 10 Students (CM6/11, Proteus & Pinnacle Courses)	1 per radio type	NC
	Training, at customer facility option up to 10 Students (CM6/11, Proteus & Pinnacle Courses)	1 per radio type	\$9,140/radio type course
	Frequency coordination option		
	Frequency Coordination – per path	1 each	\$798
	PCN (first path)	1 each	\$333
	PCN (each additional path)	1 each	\$67
	FCC License Applications -- per path	1 each	\$399
	Field engineering option (List various positions below)	Per hour	
	Path Surveys / Analysis / Calculations	1 each	\$1,397
	Floor Plan Layout / WG Drawings / Radio Placement Details / Pressure System -- per site	1 each	\$333
	Power Auditing – AC / DC Power usage / expansion + Drawings -- per site	1 each	\$133
	Grounding – Test and resistance measurement / Existing type / condition / details -- per site	1 each	\$133
	Installation services option (List support)	Per hour	
	Installation, test, optimization of 1 hop of radios and antennas. Includes path alignment. Customer provides pipe mount and proper hardware. With up to 12' antennas w/ radomes.		
	CM6/11 Non Protected, 4 – 28 DS1	1 each	\$18,138
	CM6/11 Non Protected, DS3 – OC3	1 each	\$18,738
	CM6/11 Monitored Hot Standby, 4 – 28 DS1	1 each	\$18,644
	CM6/11 Monitored Hot Standby, DS3 – OC3	1 each	\$19,244
	CM6/11 Space Diversity, 4 – 28 DS1	1 each	\$24,952
	CM6/11 Space Diversity, DS3 – OC3	1 each	\$25,552



Price Sheet

State Procurement Office

Capital Center Suite 103

15 South 15th Ave

Phoenix, AZ 85007-3223

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Vendor: Tadiran Microwave Networks, Inc.

	For High Performance Antenna add (per hop)	1 each	\$1,000
	Installation, test, optimization of 1 hop of radios and antennas. Includes path alignment. Customer provides pipe mount and proper hardware. With up to 4' HP antennas		
	18/23 GHz Non Protected, 4 DS1 – OC1	1 each	\$8,580
	18/23 GHz Non Protected, OC3	1 each	\$9,180
	18/23 GHz Monitored Hot Standby, 4 DS1 – OC1	1 each	\$9,180
	18/23 GHz Monitored Hot Standby, OC3	1 each	\$9,780
	Waveguide – Mount and Sweep 6 or 11 GHz. Customer provides all hardware. Does not include labor or replacement of faulty or damaged waveguide		
	Up to 100' centerline – Included w/ install.		NC
	Beyond 100' centerline – Add per ft. over 100'	1 each	\$6
	M1-3 Multiplex equipment – “Wire and Test”	1 each	\$1,596
	Sonet Mux equipment – “Wire and Test”	1 each	\$1,596
	Channel Bank equipment – “Wire and Test”	1 each	\$1,245
	Larus Loop Switch equipment – “Wire and Test” (1 st Site)	1 each	\$1,528
	Each Additional Site	1 each	\$523
	DCS equipment – “Wire and Test”	1 each	\$1,596
	Cross Connect panels		
	DSX3 – Per module (1DS3)	1 each	\$150
	DSX1 – w/28 ckts. Terminated	1 each	\$500
	Program Management – per contiguous project	1 each	\$4,751
	Mobilization – Typical One per contiguous project		
	3 man crew	1 each	\$5,706
	4 man crew	1 each	\$6,900
	(If expedited installation is requested, more than one crew may be mobilized. Delays may also require re-mobilization.)		

End of Contract AD010220 - 005 Document